

Volume II.
Number 8.

October, 1894.

Whole
Number 18.

THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

S. S. LAURIE

Professor Laurie, M. A., LL. D., F. R. S. S., who fills with such lustre the chair of the theory, history, and art of education in the university of his native city of Edinburgh is like many other distinguished Scotsmen the son of a minister—the late Rev. James Laurie. As a student at the university which he now adorns as one of the ablest of its professorial staff he had a distinguished career especially in classics and classical literature. After graduating he travelled abroad as tutor for four or five years returning to Scotland in 1855 when he was appointed secretary and visitor of schools to the Church of Scotland Education Committee. For nine and thirty years he has been the adviser and the guide of the national church in all matters educational. As he received this appointment at the early age of 25, there were many at the time who doubted the wisdom of the church in choosing so young a man to so responsible and arduous a post. For there was then no talk of the Education Act of 1872, and the church was mainly responsible for education in a large number of the parishes of Scotland. He threw himself into this work with energy. The time of his appointment was one of transition: the old régime had served its day and was passing away: in the transition many difficult questions had to be solved. The Act of 1872 caused the transference of schools from the control of the churches to that of the school boards, and henceforth the special work of the church in educational matters became centred in the training colleges. These colleges are situated in Edinburgh, Glasgow, and Aberdeen and have been under his general superintendence although he had not to discharge any teaching duties in them. Professor Laurie added to his duties in 1856, the administration of the Dick Bequest, an endowment specially devoted to promoting

advanced instruction in the secondary schools of Aberdeen, Banff, and Moray. As the annual visitor of the schools he was able to extend his practical acquaintance with education. In 1869, he was invited to report on the principal hospitals and endowed residential schools in Edinburgh and his reports and recommendations paved the way for the large reforms made in these institutions which are now the chief secondary schools of Edinburgh. In 1876 he was appointed by the government secretary to the Endowed Schools Royal Commission and prepared the reports and the recommendations which are now given effect to throughout Scotland. In 1876 he was appointed professor of the first university chair founded for giving instruction in the theory, history, and art of education. Professor Laurie's opportunities of studying the subject of education have been unique.

As a university teacher, he has been eminently successful. He has the faculty not so common in teaching as might be desired of making his subject interesting even to the dullest of his class. In his prelections he does not soar over the heads of the majority of his class and busy himself simply with the able. His aim is rather to touch the intelligence of his class as a whole; to give each and all of his students living interest in the subject of discussion. There is little of the "dominie" about him in his dealing with the future "dominies"; he aims rather at the investigation of educational principles and methods than at the inculcation of ascertained educational facts. His object is not to impart results but to quicken thought on the part of his students and if a student leaves the class of education without discovering that he has a soul and the power to think it must be because he has neither the one nor the other. There are few indeed of his students who have not while listening to his clear and vigorous lectures felt something of that magnetic influence which draws the scholar into living touch with the teacher. No one who has enjoyed the privilege of listening to his lectures will forget the flash of the eye, the genial countenance, and the kindly tone and humorous allusions of their whilom professor of education. He has built up the chair and it will probably be the model of all future erections of a similar kind in Great Britain. Professor Laurie's activity has been thrown in two lines separate yet closely connected—the practical or educational and the speculative. Notwithstanding the

constant pressure of educational work, he has yet been able to make the most original contributions of recent times to speculative philosophy. Under the *nom-de-guerre* of "Scotus Novanticus" he has given to the world a philosophy which has been characterized as "the production of an original and profound thinker, whose argument is managed with skill and dialectic power." Also a subsequent volume entitled "Ethica or the Ethics of Reason" and an earlier work "Notes on British Theories of Morals". In the educational field, his "Life and Writings of John Amos Comenius" is a book to which teachers will invariably turn for reliable information concerning the first modern methodologist in the art of teaching. His "Mediaeval Education and Rise and Constitution of Universities" is well known as a contribution to our knowledge of what has been done and what may be done by our university system. Among the works which have given to Professor Laurie a world-wide reputation as an educationist may be mentioned his "Language and Linguistic Method", "Occasional Addresses on Educational Subjects", "The Training of the Teacher and Other Educational Papers", "Primary Instruction in Relation to Education", "Teachers' Guild Addresses", and the "Institutes of Education Comprising an Introduction to Rational Psychology".

It is not in his class room so much as in his home at Duddingston, a beautiful spot some two or three miles from Edinburgh, that the professor is seen to the greatest advantage. There, far from the city's din, he enjoys the sweet retirement so congenial to the philosophic mood, and there, too, he dispenses a large and liberal hospitality, for his world wide fame attracts to his pleasant home on the slopes of Arthur's Seat all visitors to our metropolis who are interested in the cause of education. For all such, whatever be their nationality or creed, the professor has a kindly welcome. Seated in his library with his well loved books around him and enveloped in a cloud of tobacco smoke—for our professor, like all "men of meditation", has faith in the virtues of the soothing weed—he will entertain his visitors with pleasant and instructive conversation. It is under such circumstances that strangers will find him to be what his intimate friends know him to be—a profound thinker, a reverent inquirer, and a generous and warm-hearted man.

ENGLISH IN SECONDARY SCHOOLS: SOME CON- SIDERATIONS AS TO ITS AIMS AND ITS NEEDS

He who to-day claims a large place for English in a course of secondary studies finds himself wholly in harmony with the spirit of the time. It is not his business to prop a declining cause. In behalf of Latin, for example, we have heard it affirmed that the study of the ancient language contains the potency of leadership in human society, and that this study alone confers insight into the embryology of the race. But the English teacher need promise no marvels or use the figures of vaticination and vision. That English is essential everybody sees as well as the seer himself. That English study is inherently interesting on many sides, that it calls into play countless mental activities, that it is a powerful agency in shaping the taste and confirming the character,—all these facts are coming to be more clearly seen and expressed in programmes.

The latest programme of the University of Chicago shows a list of fifteen persons engaged in teaching English, and a series of sixty English courses. In this respect all the great universities are approximately like Chicago. By its range, its implications, its suggestiveness, its obvious utility, and its power, at the same time, to stimulate and satisfy the imagination, this plexus of studies which we name English surpasses all other subjects in college programmes. Its only rival is history, a loving and harmonious sister, with whom it walks hand in hand, each the happier for the other's presence.

But English, which is so multifarious and complicated in the upper education, is very far from being a simple and single thing in the secondary and the lower. It is a pleasing embarrassment to have too many possessions, but yet it is one. Our first problem as secondary teachers is the problem of choice. Shall our choice be the history and development of the language, and shall it include Old English, or shall our study begin where modern people can read; shall it be grammar, analysis, parsing; shall it be phonetics, vocabulary, forms, inflections, roots; shall it be

rhetoric, composition, style, diction, figures ; shall it be historical literature, or chiefly æsthetic criticism, exposition, interpretation, appreciation ; shall it embrace separate studies of the several phases of literature, as epic, lyric, dramatic, romance, novel, chronicle, homily, essay, epistle ; shall it specialize poetics, and shall poetics include metric, rhythmic, and the study of poetic motives,—and shall we practise paraphrasing ; shall we give attention to elocution, to oral expression, to declamation, to histrionics ? Every one of these elements of English instruction has its legitimate place in the secondary school. Obviously, however, they cannot all be admitted on equal terms. It becomes necessary to select, to prefer some things to others, to make, at least for the time, some kind of course of English study that shall be consistent and progressive.

And here consider how unhappy is the lot of those schools on which the necessity of this choice does not devolve. Only feeble characters crave perpetual guidance and shrink from the responsibility of choosing. A college catalogue tells what to do, not that we may present a symmetrical and interesting course of English, but that we may prepare for an examination.

This function of preparing for college has shrunk and scanted the professional thought of our secondary teachers and reduced them to low places in the ranks of educational leaders, notwithstanding their abundant Latin, because it has put them in leading-strings and too closely marked out for them the boundaries of their work. No man or woman of great originality has come from among American college-preparatory teachers. To see his work as a whole, in its relations to the rest of the field of education, the teacher must have it all to do,—the first philosophizing, the correlating, the adjusting, as well as the conduct of the daily recitations and the marking of periodic examinations. Primary teachers have long been philosophizing ; all our inspiration comes to-day from them. Would it not almost seem that there is in the teaching of elementary Latin and Greek some malign influence that tends to degrade men to the posture of acquiescence in the exactions of authority ? For originality and self-activity force men to explore the rational grounds of all they do in the habitual exercise of their vocation ; and men who find in themselves no promptings to seek the rational grounds of their actions, but ever

proceed to these actions under constraint or from mere use and wont, are not original and self-determined men. This is the danger to which secondary teachers are preëminently exposed, accepting, as they do, the dictation of authority as to their course of study and the proportions of its parts. To-day, indeed, the secondary men are very busily discussing courses and methods. But I have only to ask whether this revival of interest has been produced by an upspringing from within of a spontaneous zeal for philosophical inquiry, or whether it has been caused by a prodding from without; whether secondary men yet feel competent to discuss their own problems alone, and whether they seem even to know what these problems are till they have been told. Secondary activity to-day is chiefly concerned with improvements in the examination machinery, and with the establishment of closer relations with the colleges. To its own prime necessity it appears to be indifferent.

This prime necessity of the secondary education, I venture to suggest, is the establishment of a philosophy of adolescence, just as the great necessity of primary education is establishment of a philosophy of childhood. But while the infant is getting his rights, the youth is still waiting. At present, of course, a rounded, accepted, final philosophy of any area or period of the human mind is not even thinkable. But a philosophizing activity prevails in an increasing number of minds, and it must be remembered that it is not at all needful to step at once into a finished philosophical system in order to have the fruits of a philosophical activity. To be philosophizing is enough. Our philosophy is not to dawn upon us or be achieved by meditation with the eyes shut, but is to begin with collected data, like all sciences; and the collection of data, which implies trained observation, can be at any time begun; and this will be the beginning of philosophizing. To philosophize is a very different thing from studying college requirements or the reports of committees. The thing that is best is that which approves itself to thought and instructed insight as best fitting the given case, and by no means always the thing that is the most numerous and the most impressively signed.

No superintendent or supervisor knows how to supervise the secondary education. No normal school knows how to train secondary teachers. This portion of our system is still governed by

tradition, or by tradition modified by external demands. The conventional secondary teacher is typified in the college-preparatory "coach", who undertakes to get a boy through the examinations in so many years. The philosophical teacher considers the age, taste, and capacity of the youth, the civil society in which he is to live, the possibilities of service to humanity which his life in this society is to offer.

A discussion of secondary English must begin therefore with the actual elements of the problem,—that is, with the questions that grow out of the nature of the case, rather than with any theses momentarily engaging attention. (We have to consider, first, what is, or should be, the ideal aim and purpose of a course in English offered to youth.) Then we have to inquire what phases or parts of the complex whole that English is are best fitted to interest and stimulate the adolescent mind. Questions of method also are to a certain extent in place in a general discussion; but the solution of these will depend mainly on the tastes, the training, the aptitudes,—that is, on the personality, of the individual teacher; and the personality of the teacher should have large scope. A supervision that is more vigorous than wise exacts conformity to a set standard, and so succeeds in stifling zeal: a supervision that is more wise than vigorous shrinks from bringing minds into friendly collision, and so leaves zeal unawakened.

(What then should be the aim and purpose of a course of secondary English? I will venture the generalization, and will say that the aim of secondary English is to bring the individual mind into closest possible touch and sympathy with the national mind.) Primary English is concerned mainly with the language, the means or instrument of acquisition. Secondary English is concerned mainly with using the instrument and actually acquiring the possessions. I know the danger of *gnomic* utterances, and so hasten to say that of course the primary pupil uses language to gain knowledge, and that the high school pupil and the college student keep up their language study. But note that the child so deals with the language as to gain the power to understand it and use it correctly, while the youth examines it historically and scientifically, that is, studies linguistic science, a subject which, until advancing maturity calls into life in the youth the ardor of re-

search, is of distinctly inferior value. Hence I maintain that in the secondary, or adolescent, stage of culture, the chief concern of the school is to open to its pupils the great literary treasures that await them as inheritors of English speech. }+

In using the expression, national mind, I have in view, of course, the great mass of men whose native tongue is English. Living in widely sundered states and provinces, all these men are straitly bound together by a spiritual tie that makes of small account the diversity of political institutions. Attend a school exhibition in Calcutta, in Melbourne, in Montreal, in San Francisco, in London, and you will hear the boys and girls recite the familiar old verses, and declaim the same stirring passages that we know so well. A good half of our very patriotism is loyalty to ancient English ideas, and goes back to Magna Charta, to Naseby, to the expulsion of the Stuarts. Shakespeare is edited, printed, read, acted as much in America as in England. Every English writer contemplates an American public, and every American writer contemplates an English public. When we came to this country we brought our ancestral literature with us, and have ever since been living in it, imbibing its spirit, casting our thought in its moulds. The ecclesiastic who dwells serenely in an English cathedral close and has charge of literary arcana that we go thousands of miles merely to see,—as medieval pilgrims went to the shrines of saints,—reads the same Bible, the same Shakespeare, the same Bunyan as the western frontiersman who lives on a windy prairie, and whose books, though few, are the spiritual light of a lonely household.

(The whole range of instruction in English is distinctly three-fold,—language, composition, literature.) In secondary teaching these should not be separated, either by assigning them to different teachers or by taking them up singly at different periods of the course. The course of English should be concentric, and all its other elements should centre about literature. Language should be ancillary to literature and taught simultaneously with it, and composition should accompany every subject in which English expression is practised as an auxiliary of the instruction. This means, of course, that composition is to be attended to in every subject taught in the school.

It is obvious that the English in which a pupil writes a physics or a chemistry note-book, records an analysis in botany or zoölogy, gives orally or in writing a translation from a foreign language, makes a history report, takes notes of a lecture, writes a request for a book from the library or for exemption from some task or in the way of exculpation from some delinquency, in short, uses audible or visible speech for any purpose whatever,—it is obvious, I say, that this English counts for as much in the formation of habit as the special writing for the English teacher which we call formal composition. The way in which a person writes when off his guard,—that is, when his writing is subordinated to some other purpose than the desire to appear fine, is the way in which it may properly be said that he writes. All through life people have to write, never to show off their writing, but always to serve some useful end in the affairs of business or in compliance with social usage. (Hence the important thing to know about a youth is by no means what sort of compositions he has written, but of what sort is his habit of writing.) Sometimes it happens that we do not know quite so well as we should like to what is the import of a well written composition. Then we look up other evidences. If the composition was written under the stimulus of a mark, it is poor evidence of the state of the writing habit. In this case it is well to see what kind of English the writer is wont to compose in examinations that were to be marked not at all for their English, but for their revelations of knowledge of some other subject. Or better yet, it is well to see specimens of his writing not intended for the teacher's eye at all. The English of life, remember, is not to be marked. Pupils are destined to write one day according to their habits pure and simple, when there will be no time to recall the precepts of the class room, but when expression must be instantaneous and right, like the movements of well-drilled soldiers.

(We forget that writing is a matter of habit and are forever treating it as if it were a matter of knowledge.) The difference is enormous. To write a bit of Latin or French, you summon your wits, and perhaps give up saying the thing you would in order to say the thing you can. Such writing is an affair of knowledge: you have no Latin or French habit at all. But if you are compelled suddenly to convey some important intelligence in written

English, you set down the content of your mind directly: your thought goes into speech through prepared channels: you write without consciousness of groping for word or phrase, and you afterwards know what you have said, but do not know what language you have used in saying it. This is writing from acquired habit, and is the way in which every cultivated person uses his mother tongue. An education which magnifies rules of expression and shuns perpetual oversight of the acts of expression results in forming the consciousness of defect. * We all know people who are afraid to write a letter and are always apologizing for their speech. Can a course of English training have a more calamitous result? An abiding sense of unsurmountable defect is a blight upon the life, often referable in some measure, I doubt not, to excessive censoriousness and deficient guidance in our educational methods.

(If we recollect that learning the art of good English expression is the forming of a habit, we shall be able to judge the relative value of some of our school processes.) A habit implies previous frequent repetition of an act; and a good habit implies previous frequent repetition of an act carefully, wisely, tastefully performed. Reasoning about wisdom and taste has but little relation to the doing of wise and becoming things. That he may be led to change his mind, the adult must be convinced; but the child who does ill has simply to be shown the better way and, under applications of the pedagogic art, to be made to feel that the better way is greatly worth his while. The more securely it is formed, the further back does a habit retire into the region of unconsciousness, where it sits aloof, little liable to change and decay. But the process is slow, and, in the case of the habit of spoken speech, starts so early that we cannot possibly preside over its beginnings.

(A child's writing, however, begins during its school life, and this particular part of English accomplishment seems therefore to lie almost wholly within our jurisdiction.)

A youth cannot come to the high school without some habits or other of English writing formed in the earlier schools. The importance of the first years is now fully understood, and primary education, by its daily and unremitting language lessons, acknowledges its function of training habits. The primary education is alive. Its leaders have worked out their own aims and methods,

or, rather, are ever working out new aims and methods, for nothing is fixed and ended yet. In the high school, still, nothing less will do than daily and unremitting language lessons. Every pupil writes English, more or less, each day. Hence the high school must learn how to supervise, not sporadic compositions, but a steady stream of composition. Whatever the pupil writes in English he must understand is liable to inspection. The production of a great bulk of hurried English known not to be liable to inspection is fatal to the growth of good habits of expression. But I submit to any body of secondary teachers the assertion that this describes correctly the conditions in which they are teaching composition. Such inspection will require, of course, the coöperation of all the teachers. All pupils use English to all teachers; all teachers must therefore have an eye on the English of all pupils. If a pupil in an English class propounds wrong history, wrong chemistry, wrong Latin, shall the English teacher let it pass as being not within his province?

That which has led astray our conceptions of method in the secondary teaching of composition is the tradition of high school rhetoric. We never chose to put rhetoric in the course of study, but found it there, and accepted it without question, as we accept the customs of society. As rhetoric was at hand, and as teachers felt more and more the pressure of new demands for training in composition, the course of action easiest to take,—the course that avoided the necessity of thinking, naturally was to refer to rhetoric and the teacher of rhetoric the responsibility for bringing up the English to the standard of the modern ideals. But what the world wanted of the schools was not rhetoric, but skill in the use of English; and as rhetoric could obviously no more in the future than it had in the past confer that skill, the bookish rhetoric sank in general esteem, and the practice of writing under correction rose in favor. We are in the midst of this most wholesome movement,—theory falling, practice rising. In Massachusetts somewhat more than half the schools have dropped rhetoric altogether,—that is, the formal rhetoric that professes the name. They have all dropped psychology, which, a generation ago, flourished in the programmes side by side with rhetoric. When a study grows useless, the crowding utilities push it out, as the workers thrust the drones from the hive. There was nobody to promise

the devotees of psychology leadership in the affairs of men and insight into human embryology. Rhetoric is not quite so friendless, but it is going.

But vanishing rhetoric bequeaths to us the anomaly of teachers specially devoted to the correction of English in schools where all teachers equally hear or read this English. Every cultivated person,—let us say every person chosen to exercise the teaching function, knows when juvenile English is slovenly or wrong, and can correct the fault. In this respect every teacher is as competent as the one who teaches English. The correction of written work is to most teachers an extremely disagreeable task, so disagreeable that they are often even willing to aver their own incompetency for it on the ground that recognition of bad English requires special skill. Such averments are purely personal expressions, having no basis in reason.

I emphatically object to the setting up of an English standard which is above the speech of the mass of educated men. A dainty English, conforming to the rules of all the theorists, is too good to live in schools where work is to be done and thought is to be stimulated. A teacher specially devoted to rules is a teacher so far forth crippled for effective service in English teaching. For devotion to the rules tends to check naturalness, and makes the devotee appear a prig. I would have all teachers take in hand the correction of the school English, as a matter of course, just as they would reprove disorder on any part of the school premises. Faulty English shown to any teacher should be rejected or censured by that teacher; it belongs to his bailiwick, and to no other person's; and unless each teacher does this regularly and with alacrity, the English teaching of the school as a whole is weak, how strenuously soever the English teacher may labor. When a pupil writes, his thoughts should naturally concentrate themselves upon his theme, not upon his manner of expression. By too much nagging about details of language the linguistic consciousness is kept sore and raw. You know certain stammerers stammer only when they are particularly anxious not to. Villari tells of English schools where he found composition not taught at all, the pupils having it already as a part of their breeding. Villari's observation referred to youth from the English upper classes of society. But in the grades of an American

system, if composition were always attended to from the beginning, it would rarely have to be taken in hand as a special topic, and never in the way of grinding efforts to eradicate bad habits.

Formal rhetoric I would abolish entirely from the course; or at most give it a lesson or two at the very end as a sort of *résumé* of the foregoing discipline. Applied rhetoric, remember, will have been pursued during all the learner's school years. What the secondary school wants is the effects of rhetoric, not the science of it. Rhetorical science belongs in a more advanced stage of education. Thus it is with expression in speech as it is with conduct. No one thinks of referring the integrity of an upright man to previous study of the science of ethics; and no more does the common sense of mankind refer the good English of good writers to the study of rhetoric.

A certain amount of formal grammar, on the other hand, I consider extremely important. The distinction of subject and predicate, which is fundamental to thought and to speech, is comprehensible even to children younger than high school youth. The names themselves, like many other grammatical terms, are not merely technical, but belong to the vocabulary of educated persons. Intelligible and interesting to youth are the distinction of subject and object, the distinction of principal and subordinate elements, the meaning of noun, verb, and the parts of speech generally, of proposition, number, gender, and finally of case, tense, mode, relation, and government. To know whether a certain error is a barbarism, a solecism, or an impropriety is worthless knowledge. But tracing grammatical relations is a most excellent discipline, and the knowledge in which it issues is a most useful knowledge. Through parsing and analysis we gain facility in following the language, sometimes involved and difficult, of writers like Milton. No one can go far in Shakespeare without noting the peculiarities of his grammar. And you cannot conceive a beginning of study of a foreign language without perpetual consideration of grammatical topics. Therefore I recommend parsing and analysis, to occupy a certain quantum of our precious English time. It will not hurt a pupil's appreciation of Milton to parse a little of *Paradise Lost*. The opinion we often hear expressed that to parse beautiful prose or verse blunts the æsthetic enjoyment of it as literature I simply laugh at. The

onslaught on grammar which culminated some years ago was a senseless panic. Of late I believe the educational world is recovering its wits.

Our study of grammar will have to be historical, to match our study of literature,—that is, it will have to take in Tudor English, at least, and, I should hope, the later middle English of Chaucer. I cannot see the way clear, in view of our inadequate opportunity, to undertake more than a cursory study of the early history of the language. But it is certainly feasible to implant in the minds of youth right views of the place of English in the great world stock of languages; to make them see that English is essentially Teutonic, but has been an immense borrower; to show them how the strata of the English word hoard correspond with the periods of racial vicissitude; to enable them, in short, to use the dictionary intelligently in looking up the origins of words and the development of meanings. In the secondary school as it is to-day, the study of Old English (Anglo Saxon) is out of the question. The study would fail I think to interest the mass of youthful minds, and would too seriously trench on established subjects. The studies preparatory to Anglo Saxon, namely, Latin and German, should be, and are, pursued with vigor in the secondary schools. For the old literature, remember, we here also have the refuge of translations. Our pupils may not read their Widsith, their Beowulf, their Judith, in the original, but nevertheless, of course, they will read them. As the secondary schools develop, and the tyranny of courses yields to election, perhaps Anglo Saxon will find its place.

(To be concluded in the November number.)

Boston

Samuel Thurber

MATHEMATICS IN THE SECONDARY SCHOOLS OF GERMANY. I

The school reforms consequent upon Prussia's defeat in the Napoleonic wars mark the beginning of serious mathematical study in the *Gymnasium*. Hitherto, two to three recitations a week had been considered ample time for a subject so little in harmony with humanistic ideals; ten to fourteen hours weekly were not too many for Latin and Greek. But in the programme for 1816 mathematics was made a main subject alongside of the ancient classics and of equal worth with them. The course led up to and included theory of equations, chance, the elements of analytic geometry, and mechanics. In zeal to outdo France the reformers had been too radical for the schoolmen. In 1827 the time was reduced from six hours a week to four. The programmes of 1837 and 1856 were still less liberal, allotting to *Quinta*, *Quarta*, and *Tertia* only three periods. In 1882 only two classes were left with so few as three recitations a week; the total week-hours were 34. The programme of 1882 decreased the week-hours for mathematics in the *Realgymnasiums* from 47 to 44 and in 1892 a still further reduction of two hours a week was made. The *Oberrealschulen*, with French and English in place of the classics but with a nine-year course as in the *Gymnasien*, have at present 47 week-hours of mathematics.

Mathematics as taught in the best German schools is a unit. If I refer to the sub-courses independently for convenience's sake, it must be remembered that they are more than parallel—they are interlaced and interwoven to a degree that makes it difficult to separate them. A further difficulty arises from the differences in the secondary schools themselves. They have not the same courses nor a common aim. From a quantitative point of view the *Realgymnasium* stands midway between the two extremes; qualitatively it may be questioned if it does not rank at the head in mathematics. But for the sake of a norm it may be well to take a middle ground. I have chosen, therefore, to describe the course of the *Realgymnasium* in Cassel, Dr. Wittich, direktor,—one of the best schools in the kingdom and renowned as the *Alma*

Mater of Prince Henry of Prussia. For illustrations of method I shall draw freely from my experiences in all sorts and conditions of schools, and it goes without saying that whatever of criticism I may indulge in should not be construed as reflections on the Cassel institution. Indeed, I am obliged to go elsewhere for my material, as during my stay in Cassel the celebration of the twenty-fifth anniversary of the founding of the school was of greater interest to the pupils (—and to the visitor?) than the daily routine of the class room. Its curriculum follows necessarily the last Prussian programme and so far as this discriminates against *Realgymnasien*—and it has cast a cloud over them all—in so far does this school suffer with the rest. For this reason one often finds the best results in mathematics in other German states. Prussia is not Germany by any means in educational matters; yet from force of circumstances the smaller states follow her leadership—though at a respectful distance. The course of 1882, which was willingly adopted in the southern states, gave advantages which non-Prussians are loth to yield, and while the Prussian “reforms” have been followed to a certain extent it has been done under protest. The attitude of the southern leader is happily put in the following words addressed to me in criticism of recent changes: “I cannot bring myself blindly to admire a thing merely for the sake of its coming from Berlin”. The Saxon ministry has especially favored the *Realgymnasium* and so have most of the duchies. The Weimar *Realgymnasium* has a most enviable reputation and to its director, Dr. Wernekke, I am indebted for many favors. Here the good points of the German system are to be found at their best and the course is not too much “reformed”.

A boy on entering *Sexta* at nine years of age is expected to bring with him from his three-year preparatory course the ability to add, subtract, multiply, and divide simple whole numbers. For the lower grades the Cassel course is as follows:*

SEXTA: Rechnen, 4 periods: Extended knowledge of numbers from 1–100, especially division of numbers by smaller numbers and factoring. System of tens. Numeration. Repetition of the four fundamental principles with abstract whole numbers. Weights,

* The Weimar *Realgymnasium* has five periods a week in *Sexta* and *Quarta*. By teaching simple rule-of-three in *Sexta* time enough is gained for one hour a week of geometrical object lessons in *Quinta*.

measures and money. Reduction of complex numbers and in connection therewith the simplest tasks in decimal fractions. Text-book, *Uebungsbuch von Böhme*, VIII.

QUINTA: *Rechnen*, 4 periods. Preparations for study of fractions. Common and decimal fractions. Rule-of-three. Text-book, *Böhme's*, IX.

QUARTA. I. *Rechnen*, 2 periods. Review of fractions. Rule-of-three with whole numbers and fractions. Profit and loss. Interest, discount, and partnership. Text-book, *Böhme's*, XII.

II. *Plane Geometry*, 2 periods. Introductory course in object lessons. Angles, parallel lines, triangles, quadrilaterals. Simple constructions. Text-book, *Koppe's Planimetrie*.

Arithmetik, the theory of numbers, includes both reckoning with definite numbers (*Rechnen*) and with numbers in the abstract. *Algebra* is the theory of equations. The work of the lower grades, therefore, is with *Rechnen*, practical arithmetic. The aim is to secure "accuracy and facility in operations with figures" and to lay the foundation for future study. The first desideratum is favored by extraneous circumstances. Classes usually number thirty to forty pupils. Recitation rooms are comparatively small. One black-board, and that a small one behind the teacher's desk, must suffice for the needs of the class. An exceptional arrangement is to have two such boards balanced on pulleys, or a second board mounted on an easel nearer the pupils. There are neither slates nor paper for rough work. All reckoning must be done on the board, in the exercise books which are inspected by the teacher, or—in the head. The last, as the path of least resistance, is followed by the average boy notwithstanding his natural prejudices against thinking for himself. Whether these circumstances be cause or effect, I cannot say, but I suspect they are partly both. The German teacher will tell you, however, that "years ago" it was the custom to assign long lessons to be worked out at home, that to secure a reasonable percentage of correct answers rules and copies were invented, but—he will add—the process was purely mechanical. To-day the ideal is that every step in advance shall be taken in the class rooms, that there shall be but one step at a time and that all shall take that step at the same time. This forbids independent home-study; it limits the master's work to teaching.

A recitation opens with questions rapidly put on the review leading up to the work of the day. Answers must be short, concise, and complete sentences. New principles are developed inductively if possible. A boy goes to the board—why more than one board?—and writes a problem as read to him by another boy or by the teacher. Then more questions to the class. The pupil at the board merely registers the progress; he may be equipped with the rest and if he has suggestions to make he may volunteer in the usual way—by raising the hand—and await the master's recognition. Sometimes if the problem is important, the work is erased and another boy performs the same operation, recounting each step aloud while the class copy it into their exercise books. So goes the hour. The proportion of time given to written work as compared with the questions asked and answered is not far from 1:5, so great is the stress put upon oral demonstration. The home-work is of the same nature—generally the identical problems if not already written out; but the task must not take more than half an hour of the pupil's free time. A special exercise to be done at home may be required not oftener than once a month. If new problems are set, all inherent difficulties must be previously closed up and sifted in class. The pupil is not to experiment, nor work in the dark.

From the beginning of the course particular stress is put upon facility in mental calculation. Practice is daily afforded in the ordinary work of the class room, but special drill is given with each lesson in the lower grades. At first simple whole numbers are employed but in *Quinta* the work has so far progressed that numbers of two and three digits are freely used. Such work to be of value must be done quickly; the answer should be ready immediately on conclusion of the statement. From twelve such problems given in one recitation I select at random three:—(1) $4,1 + 0,9 - 4,9 + 0,9 = ?$; (2) $1,2 + 3,4 \times 10 = ?$; (3) $0,9 + 2,4 + 3,1 \div 8 = ?$ Such tasks are rendered the more difficult by the German way of reading decimals—thus in (1): "Four-comma-one plus naught-comma-nine minus four-comma-nine plus naught-comma-nine," etc. This reading of figures and points in succession, though not expressly sanctioned, seems to be connived at in all parts of Germany from the common schools to the universities; illogical as it may be it seems to the foreigner a sensible reaction

against the laws of the grammarians. The next step brings in the black-board; the problem is written out, thus: $(25,5 + 27,45 + 31,55) : 5 = ?$, but the solution is given orally. How far and in what lines these methods shall be developed lies wholly with the teacher. In geometry, too, there is ample field. A good *Tertianer*, I am told, should be able to demonstrate the Pythagorean proposition in his head, following any designation of lines and angles that may be given him. In arithmetic the multiplication table may be taught as high as the 20's, after which it is comparatively easy to make all necessary combinations. But in explaining his methods to me an excellent teacher made this remark: "It is well that a pupil should be familiar with short methods and be able to reckon rapidly in his head, but it is better to know that 18 times 27 is the same as 18 times 20 plus 18 times 7 than to perform the operation mechanically." Whatever the methods in mental arithmetic may be, the results in most German schools are admirable.

Some of the best schools are making a trial of the so-called "Austrian methods" of reckoning. Illustrations follow (The figures here given I have copied from actual class work; no others were used.):—

(1) *Subtraction*—

$$\begin{array}{r} 954 \\ - 761 \\ \hline 193 \end{array}$$

Boy says, "One and *three* make four (writes 3); six and *nine* make fifteen (writes 9); one (to carry), seven and *one* make nine (writes 1).

(2) *Multiplication*—

$$\begin{array}{r} 225,67 \cdot 875 = ? \\ 180536 \\ 157969 \\ \hline 197461,25 \end{array}$$

Multiply first by 5, then by 7 and then by 5 adding to this product the partial products already found; write only complete sum in last case. The final operation is as follows: $5 \times 7 = 35$ (write 5); $5 \times 6 + 3 + 9 = 42$ (write 2); $5 \times 5 + 4 + 6 + 6 = 41$ (write 1); $5 \times 2 + 4 + 9 + 3 = 26$ (write 6), etc.

(3) *Division*—

$$\begin{array}{r} 427654 : 145 = 2949,3. \\ 1376 \\ 715 \\ 1354 \\ 490 \\ \hline 55 \text{ rem.} \end{array}$$

First figure of quotient is 2. Then $2 \times 5 + 7 = 17$ (write 7); $2 \times 4 + 1$ (to carry) $+ 3 = 12$ (write 3); $2 \times 1 + 1 + 1 = 4$ (writes 1). Bring down next figure (6) of dividend and continue as before.

(4) Square Root—

$$\begin{array}{r|l} \sqrt{42} & 76 \mid 54 = 653,9. \\ 6 & 76:125 \\ & 5154:1303 \\ & 124500:13069 \end{array}$$

The methods, as will be seen, are the same as in division.

After a close inspection of pupils' exercises I cannot say that the chances of error are greater than with the usual way. It reduces the written work to a minimum and decidedly increases the rapidity of computation. It is well worth a trial. Schools which have adopted it show no inclination to go back to the old methods.

The rule-of-three plays an important part in *Quinta* and *Quarta*. The easier problems are stated and solved as follows:

(a) Statement—

If 25 *kg* of *x* cost 53,45 *m*. what will 155 *kg* cost?

(b) Solution—

25 <i>kg</i> cost 53,45 <i>m</i> .	155 <i>kg</i> cost?
150 " " 320,70 "	
5 " " 10,69 "	
155 <i>kg</i> cost 331,39 <i>m</i> .	

Rather more is made of compound proportion than might be expected from the practical nature of the course; the method most frequently used is as follows:

(a) Statement—

A canal 245 *m* long, 3,3 *m* deep, 7 *m* wide is built by 140 men working 546 days at 7½ hours a day; what is the length of another canal 5 *m* deep, 8,2 *m* wide on which 182 men are employed 324 days working 8½ hrs. a day?

(b) Solution—

140 men in 546 d. of 7½ h. make 3,3 ^m d. 7 ^m w. 245 ^m l.	
182 " " 324 " 8½ " " 5 " 8,2 " x.	
$x = \frac{245 \times 182 \times 324 \times 50 \times 33 \times 70}{140 \times 546 \times 45 \times 50 \times 82}$	

Say,—If 245 *m* be done by 140 men, one man will do the 140th part, 182 men will do 182 times as much; viz. in 546 days—hence in 1 day the 546th part, in 324 days 324 times as much; viz. in 7½ hrs. (45-6)—hence in 1-6 hr. the 45th part, in 8½ hrs. (50-6) 50 times as much; viz. 33-10 *m* deep—hence if 1-10 *m* deep 33 times as much, if 50-10 *m* deep the 50th part, etc.

The problems of commercial arithmetic are solved in the same form. Here is a task in interest:

(a) *Statement*—

What is the interest on 450 m. for 2 yrs. 3 mos. and 10 ds. at 5 per cent.?

(b) *Solution*—

100 m.	give	5	m. int. in 1 yr.
450 "	" "	22,50	" " " "
450 "	" "	45,00	" " " 2 yrs.
" "	" "	5,625	" " " 3 mos.
" "	" "	,625	" " " 10 ds.
<hr/>			
450 m.	give	51,25	m. int. in 2 yrs. 3 mos. 10 ds.

The greatest difficulties of the lower grades are in common fractions. But from the start every effort is made to keep within the pupils' sphere. When a boy knows what the division of a unit means the term "fraction" has for him a tangible reality, a definite value. Beyond this limit the German teacher hesitates to go. The theory may best be taught with numbers not too large and as for pure practice there is enough of that in other connections. The main thing is to know the value of a fraction both in concrete terms and in its decimal form and to realize that in its treatment only familiar principles are employed. The prevailing use of the decimal system of weights, measures, and money makes the transition comparatively easy. By far the greater part of the work is done orally, i. e. without book, paper, or blackboard.

The introductory course in geometry is given by most non-Prussian schools in *Quinta*, one period a week. The object is to familiarize the pupils with the essentials of geometrical form—"enough to get them looking at things from a geometrical point of view." The object lessons begin with solids which are handled, described, and measured. Thus arise correct ideas of surfaces, lines, and points and their relations. It is but a step to the drawing of figures, and this in turn forms a basis for the systematic study of plane geometry. Formal theorems are unnecessary. A long series of constructions follows the demonstration of such statements as these: "The base angles of an equilateral triangle are equal"; "The angles of a triangle make two right angles"; "Diagonals of rectangles are equal"; "A tangent stands at right

angles to its radius," etc. Such are the concrete methods of the common schools (*Volksschulen*) and there is a party of school-men, including the Herbartians* who would carry them still further in the secondary schools. Their success is not marked, but to the movement may be accredited certain tendencies which are becoming apparent even in the most conservative circles. The school that would *educate* its pupils, it is said, has no use for what is purely theoretical or abstractly mathematical. The universities are for specialists; the higher schools stand for general culture. "Were Shakespeare, Schiller, and Goethe skilled in logarithms and equations of the third degree?" Mathematics is concerned with the *form* of things, not with their *contents*. The mathematician may be Jew or Gentile, materialist or idealist; it is not *what* he thinks but *how* he thinks that is of concern.

(Concluded in the November number.)

James E. Russell

Leipsic, Germany

* See Schultze's *Deutsche Erziehung*, pp. 278-79.

THE HISTORY OF EARLY EDUCATION

HELLENIC EDUCATION—*continued*.

CHAPTER IV.

ATHENIAN AND IONIC-ATTIC EDUCATION.

Music.

Music that is to say the chanting and singing of songs was, I am disposed to think, the primary basis of Greek literary education. It was common to the Doric and Ionic races. And I should not be surprised if it was the musician, as being the traditional channel for ballad and lyrical literature, who first (in the earliest times) added reading and writing to his ordinary instructions. The functions of the music teacher and the *Grammatist* were afterwards separated. For a considerable period, however, if not always, the music instruction was given in the same buildings as the literary instruction.

In the special music course, which did not begin, it would appear, till the 13th year, the Athenian youth were taught by the *Kitharist* to play on musical instruments, especially the lyre, a seven stringed instrument.* For a time, after the Persian wars, instruction was also given on the flute which became very fashionable, the name being given to any instrument played with the mouth, such for example as our flageolet. It was this instrument which was popular in Bœotia. Plutarch relates that Alcibiades refused to play on the flute partly on account of the contortions of the face to which it gave rise, partly because he who played it could neither speak nor sing while so doing, and that he also begat in others a most decided aversion to the instrument, which on this account fell at last into thorough contempt. The true cause, however, of its falling into disuse was probably the shrill and exciting character of the music it produced and the impossibility of accompanying the music with the voice. The Greek flute had not the soft sentimental tones of the modern flute. The object of this musical instruction was educational, but also to en-

* The *Kithara* was more of a professional instrument.

able all to take part in religious services and in friendly social entertainments. Music, says Aristotle, B. V., was introduced by our forefathers for the "rational enjoyment of leisure".

The boys were instructed in verse-making (Schmidt) and in the art of rhythm and melody, and their ear trained to a feeling of the measure. This would be necessary to good elocution. The Greeks believed that in this way the spirit of the young was elevated, and that they became rhythmical and harmonious in mind and manner. At the same time table-songs were learned by heart with a view to increasing the pleasure of social meetings. These songs pithily and wittily enforced homely sentiments and the principles of morality, patriotism, and worldly wisdom. The Doric strain (a minor scale) was that usually adopted for such purposes and they gave it the preference because it was characterized by a dignified repose, and more than any other, seemed to give expression to high spirit and to manliness. The soft and voluptuous Lydian measure (a major scale) was denounced as immoral in its tendency, while the Phrygian (also a minor scale) was passionate.* In the earliest stage of instruction the *Kitharist* dictated to the children simple songs, which they were required to learn by heart. Then they had to learn the sustained and chaunt-like airs, to which they were set. One of the first poems which they learned, is said to have been:

"Pallas, dread destroyer of cities,
Thou war-din-raising-goddess,
Holy, enemy-averting daughter of Jove,
I call on thee,
Horse-taming, noblest virgin."

"The boys were not meant to attain professional skill in singing and playing; their musical ability was only to be so far developed as to enable them when grown up to take part in choruses and sing the table-songs, etc. This was the direct practical aim of the instruction under the *Kitharist*; but the main purpose of teaching music was unquestionably to produce harmony and balance of soul as well as poetical literature; for the music teaching was never dissociated from verses—lyric poems or hymns. "The poetry and music together formed a single work

* Prof. Mahaffy has a very interesting chapter on Music as a branch of Greek education.

of art." In the Protagoras Plato says: "They make rhythm and harmony familiar to the souls of boys that they may grow more gentle and graceful and harmonious, and so be of service both in words and deeds; for the whole life of man stands in need of grace and harmony." And Aristotle and Plutarch utter similar sentiments; and to these we may add Polybius. That the aim of music-teaching was ethical is further shown by the stress which both Aristotle and Plato lay on the importance of the State controlling school-music in order to secure sound moral results.

It was always, indeed, the education of mind and body as a unity which the Athenian kept constantly in view—not technical facility in any art whatsoever. "To be always in quest of what is useful," says Aristotle, "is not becoming to high-minded men and freemen." Even as regards gymnastic and music the "professional" was not highly esteemed. Plutarch says that when Alexander played and sang on one occasion with particular skill, his father Philip said "Are you not ashamed to play so well?"

As we now see "the mental culture was but plain and simple, yet it took hold of the entire man; and this all the more deeply and thoroughly because the youthful mind was not distracted by a multiplicity of subjects and could therefore more closely devote itself to the mental food and to the materials of culture offered to it." (Curtius. *History II*, 416.)

The young Greek had a rich literature to draw on. For so small a people the literary materials of national education were extraordinarily various and abundant. To Homer is generally assigned the date of about 1000 years before Christ and he is closely followed by Hesiod, while the number of unnamed rhapsodists and handers down of national traditions of religion and conduct and heroism must have been great. This class of poetry generally gives place, as society becomes more organized, to verses inculcating a homely philosophy. But these poets of worldly wisdom were preceded in the seventh century before Christ by elegiac and and lyrical poets—a natural development of the heroic rhapsodist and religious hymn-writer. (Callinus, Archilochus, Tyrteus, Alcman, and Sappho.) The sixth century is especially the period of gnomic or ethical poetry—Solon, Theognis, Phokylides, and the sayings of the Wise men. At the end of this century and the beginning of the fifth we have again the lyrical poets

Anacreon and Pindar; and about the same period, tragedy—a combination and evolution of the gnostic, the heroic, and choral lyric—was firmly established by Æschylus. In education as indeed in public life the poets were regarded as teachers of wisdom and as moral guides. The end of the seventh and the beginning of the sixth century also saw the rise of speculative philosophy which reached its highest point in the end of the sixth, the whole currency of the fifth and the fourth centuries B. C. Oratory also reached its highest and finest development in the fifth. I mention these things, because it is impossible for us to understand the literary side of Greek education without realizing the immense mass of literary material by means of which the education could be conducted—literary material existing more or less (but always growing from generation to generation in quantity and excellence) for 500, if not 600, years before the birth of Plato in 430 B. C. During all this period too the religion of the Greeks in its more elementary and popular forms was a living force.

Modes of procedure have been occasionally adverted to above in their proper place. As regards method generally, there was none consciously thought out. The teacher pointed to a letter and named it and the boy named it after him. He said pieces of poetry line by line to the boy and they were repeated until they had been acquired. The whole process was a *telling* on one side and learning by heart on the other; but explanations were given and asked. When manuscripts became more common the master's work would be lightened and the boy's independent activity stimulated. There were of course no home lessons: Everything was done in school. Any one could teach on these terms who had the necessary patience. Teaching consequently was a humble occupation—not a profession. I have already said that, so far as we can learn, the pupils came up in turn to say their lesson to the master. Questions of classification and school organization had not arisen. It is impossible to believe, however, that pieces of poetry were not learned collectively as was the multiplication table to a kind of monotonous chant.

(d) *Gymnastic.*

About the eighth year apparently, the physical education was begun with gymnastic exercises under the *Paedotribe* (gymnastic-

master) after preparation had already been made for it by means of easy games in the paternal home. After the age of fourteen or fifteen, gymnastic took precedence of literary instruction. It is doubtful whether the gymnastic instruction began at the same time as the music instruction or after some progress had been made in literary subjects.

The *Pædotribe*, as I have said, was not appointed by the State. Like the teacher of the day-school he opened a *palestra* or wrestling school; but he was in all cases under State-supervision and subject to certain State-regulations, which had in view mainly the moral demeanor of the boys. The *Pædotribe* himself gave the gymnastic instruction, but there were present also in the arena, the moral superintendent or Censor, who had the oversight of morals, and the anointers, who arranged and superintended the dietetic regimen, and anointed or saw to the anointment of the body with oil, which after exercise had to be scraped off. The gymnastic exercises had in Athens for their object the discipline of the body with a view to giving it a healthy development and a noble carriage. The *palestra* was reserved for boys and the *gymnasium* for the *ephebi* (youths of eighteen years) and full-grown men. Plato and the Athenians generally looked with most favour on games which gave room for the exhibition of the moral qualities of spirit, (or as we would say, pluck,) and intelligence—mere animal force being regarded as of comparatively small account.

The exercises were graduated from the easier to the more difficult, and aimed at forming the body in all its stages of development. During the exercises the boys were arranged in two or three divisions. These were united at festivals, especially at the *Hermæa*. Lively games, especially the game with ball, appear to have been first taken up; also exercises in swimming were practised very early.* Among the first exercises were, standing on tip-toe, while performing certain active movements of the arms; jumping; hanging and climbing on the rope; holding a weight

*On this point Professor Mahaffy, I notice, throws doubt. Why he does so, I cannot understand, as swimming is especially mentioned in the earliest laws. There is also a common phrase applied to an uneducated man, "he can neither swim nor say his alphabet." (See also Krause p. 100 for an apt authority.)

with extended arms; the simple race; boxing, wrestling, etc. After sufficient training, more advanced exercises were undertaken. There was a contest called the *Pentathlon*, in which five exercises performed in succession by the same person were included, viz.: leaping, running, throwing the discus, throwing the spear, and wrestling. This had a place even at the Olympic games. The *pancratium*, in which wrestling and boxing together, and the use of feet as well as hands was allowed, seems to have been tolerated, but was reserved for the elder boys; and, always at Athens, under certain regulations which distinguished it from the *pancratium* of the professional athlete. In the *palestra*, attention was paid to the deportment of the boys, and the rod was as little spared here as under the *Kitharist*.* At one time music was associated with gymnastic exercises. Our recently introduced musical drill is consequently only a revival.

Dancing formed part of the physical training; but by dancing was not meant the rhythmical movement of the feet alone but of the whole body: and this to music. But this exercise, admirable as it is, did not form part of the regular training of the young Athenian. Thorough training in dancing was confined to the trained choral bands who performed at festivals and in the temple and theatre. These dances cultivated that grace and delicacy of movement to which the Athenian had already in himself a natural bent. Indeed it was of common knowledge in the ancient world that even a poor Athenian citizen distinguished himself among all other men by his easy carriage and graceful bearing. The dances were of various kinds, religious, warlike, and Corybantean. Popular dances were also handed down in which all took part, but (as I have said above) the training in dancing was not a part of the regular education,† though what we now call "musical drill" was practised.

The *ephebi*—youths of eighteen years (now of age and capable of bearing arms) no longer attended the *palestra* but the gymnasium, and received here instruction from the *Gymnast* (a trainer

* The proportion of time given to the *palestra* and the day-school is not known, nor is it quite certain at what hours of the day the *palestra* was chiefly frequented. It is understood, however, that it was visited twice a day, in the morning before breakfast and again before sunset.

† Ussing, however, seems to think it was.

of professional athletes) and other teachers.* Full-grown men also were expected to continue the exercises, which as boys and youths they had practised. And on occasion of sacrifices at the *Panathenaea*—special wrestling matches were arranged for them.

It is to the ephebic instruction in the gymnasia that Lucian refers in the following passage (in the Dialogue *Anacharsis*): "We teach them likewise to run races, which makes them swift of foot and prevents their being out of breath; the course, moreover, is not on solid ground, but in a deep sand, where the foot can never be firm, but slips away from beneath them: we exercise them likewise in leaping over ditches, with leaden weights in their hands and teach them to throw darts at a great distance: you must have seen also in the gymnasium a brass thing like a small shield, round and without a handle or strings, you took one up, I remember, and thought it very heavy, and so smooth that you could not hold it; this they throw up into the air, or straight forwards, contending who shall cast it farthest; this strengthens the shoulders and gives the limbs their full power and agility. As to the dust and dirt, which seemed to you so ridiculous, I will tell you why we have so much of it; in the first place we do it that the combatants may not hurt themselves on the ground, but fall soft and without danger; and secondly, because, when they grow wet in the mud and look like so many eels, as you called them, it lubricates the limbs; it is therefore neither useless nor ridiculous, but promotes strength and agility, by obliging them to hold one another with all their might, to prevent their slipping away: add to this, that to lift up a man who is anointed with oil and rolled in the mud besides is not easy."

(c) *Moral Education.*

An ideal aim and a moral purpose ran through the whole Athenian education. Lucian thus sums up the teaching which the young Athenian received:—"We commit our children first to the care of mothers, nurses, and schoolmasters to instruct them prop-

* The precise distinction between the *palaestra* and the *gymnasium* is matter of debate, but I have given the general conclusion. It would appear that in the later period of Greek history the distinction was not observed as in the earlier. As to the age of the ephebus some say eighteen and some seventern. It probably varied.

erly in their early years; but as soon as they begin to understand what is right and good, when fear, shame, and emulation spring up in their minds, we then employ them in studies of a different kind, and inure their bodies to labour by exercises that will increase their strength and vigour; we do not rest content with that power of mind and body which nature has endowed them with, but endeavour to improve it by education, which renders the good qualities that are born with us more conspicuous, and changes the bad into better; following the example of the husbandman who shelters and hedges round the plant, whilst it is low and tender; but when it has gained strength and thickness, takes away the unnecessary support, and by leaving it open to the wind and weather, increases its growth and fertility. We teach them, therefore, first, music and arithmetic, to write letters, and to read aloud clearly and distinctly; as they grow older, we give the maxims, sayings and opinions of the wise men, and the work of the ancients, generally in verse, as easier for the memory: when they read of the great and noble actions thus recorded, they are struck with admiration, and a desire of imitating them, ambitious of being themselves distinguished, admired, and celebrated by the poets of future ages as their predecessors were by Homer and Hesiod." (Anacharsis.)

Again in Plato's Protagoras we find a better account of the training of the young Athenian than any that could be constructed by the collection of many passages from Greek authors; and from it we shall see that in his view the aim throughout was a moral one—an aim to be attained through literature and music.

"Education," he says, "and admonition commence in the very first years of childhood, and last to the very end of life. Mother and nurse and father and tutor are quarrelling about the improvement of the child as soon as ever he is able to understand them; he cannot say or do anything without their setting forth to him that this is just and that is unjust; that this is honourable, that is dishonourable; this is holy, that is unholy; do this and abstain from that. And if he obeys, well and good, if not, he is straightened by threats and blows, like a piece of warped wood. At a later stage they send him to teachers and enjoin them to see to his manners even more than to his reading and music; and the teachers do as they are desired. 'And when the boy has

learned his letters and is beginning to understand what is written, as before he understood only what was spoken, they put into his hands the works of great poets, which he reads at school; in these are contained many admonitions and many tales, and praises and encomia of ancient and famous men, which he is required to learn by heart, in order that he may imitate and emulate them and desire to become like them. Then, again, the teachers of the lyre take similar care that their young disciple is steady and gets into no mischief; and when they have taught him the use of the lyre, they introduce him to the works of other excellent poets, who are the lyric poets; and these they set to music, and make their harmonies and rhythms quite familiar to the children, in order that they may learn to be more gentle and harmonious and rhythmical, and so more fitted for speech and action; for the life of man in every part has need of harmony and rhythm. Then they send them to the master of gymnastics, in order that their bodies may better minister to the virtuous mind and that the weakness of their bodies may not force them to play the coward in war or on any other occasion. This is what is done by those who have the means, and those who have the means are the rich. Their children begin education soonest and leave off latest. When they have done with masters the State again compels them to learn the laws, and live after the pattern which they furnish, and not after their own fancies; and just as in learning to write, the writing-master first draws lines with a *stylus* for the use of the young beginner, and gives him the tablet and makes him follow the lines, so the city draws the laws which were the invention of good law-givers which were of old time; these are given to the young man in order to guide him in his conduct whether, as ruler or ruled; and he that transgresses them is to be corrected or called to account, which is a term used not only in your country, but in many others."*

According to Plato and Lucian then, the moral training of the young Athenian was never lost sight of. The learning by heart of noble passages from the poets and the whole of the music-instruction (in its narrower sense) had the ethical for its aim in the large sense of that term, including aesthetic. Homer

* Translation taken from Mahaffy on Greek Education, p. 37.

and the poets generally were looked upon as text-books of morality and wisdom. In truth, the mind of the Athenian child was educated almost wholly by means of poetry and music.

To manners also, which are the outward expression of feelings there was much attention paid both in the family, in the street, and in the school. Grace and becomingness of manner was called, as you remember, *eukosmia*, and throughout the whole Hellenic world stood side by side with the other two aims of education—*sophrosyne* and *arete*:—this threefold aim being pursued by means of a well-devised training in music and gymnastic. But in the boy the Greeks did not expect to find this harmonious, self-balanced life: he had to be educated to it. The chief virtue of the boy was reverence for his elders, modesty of demeanour and a keen susceptibility to praise and blame.

As a result of all this we find that not only a refined and active intelligence but also grace of manner and refinement of speech specially distinguished the Athenian Greek. Even down to the time of Lucian we have evidence of this. Cicero de Orat. III, 11. refers to it and particularly mentions the sound of the voice and the sweetness of speaking in a genuine Athenian. So does Quintilian, I think.

(f) *Advanced Education.*

The Ephebi.—The higher education of the Greeks centres in the gymnasium. The gymnasia were State-supported institutions and, in addition to a managing president, there was a moral overseer or *Sophronist* and many subordinate officers. The ephebi continued to frequent them regularly and go through more difficult gymnastic than in their earlier years. Both the moral and gymnastic training may be said to have received their completion in the service in the militia (or State-police) (beginning about the age of eighteen) when among other duties, (especially the practice of gymnastic exercises), the youths had to camp out or occupy fortresses and patrol the frontier for two years. It was a military service and was at first compulsory. The youths were liable to foreign service, only after its completion. It certainly, for manifest social reasons, must have been a great burden on many classes of citizens, and in the later days of the Macedonian rule (340 B. C.) it became voluntary and consequently aristocratic.

When they entered on this ephebic training (also as we have seen practised among the Spartans) the Athenian youths, now eighteen years of age, were formally admitted to citizenship, before the assembled citizens and presented with a shield and spear. They took the following oath in the temple of Athene: (Grasberger III, 61.) "I will not bring dishonour to these holy weapons and will not desert the comrade who stands side by side with me, whoever he may be. For the holy places and for the laws I will fight singly and with others. I will leave my country not in a worse but in a better condition by sea and land than I have received it. I will willingly and at all times submit to the judges and to the established ordinances, also not allow that anyone should infringe thereon, or not give due obedience. I will reverence the ancestral worship. Let the gods be witnesses of this!"* Their names were now entered on the citizen-roll of the Phratría to which they belonged, and they now in the fullest sense belonged to the State.

The education of the Athenian Greek did not end here. All his life long he was instructed by the public drama, by the contentions and rivalries of civic life, by the great festivals, which were frequent and stimulating, by the superabounding development of native art and by the public literary contests which began at an early date in their history and stirred the ambition of youths while moulding the life of maturer men.

The civic life above all which often stirred questions in which the whole of the Hellenic states were involved gave a daily education to all citizens. A polity is an education, says Plato.

Whatever might be disregarded, gymnastic was never forgotten. It was indeed in connexion with the gymnasia that sophistical and philosophic teaching began, in the later half of the 5th century B. C., as we shall see. As places of common resort they were analogous to the modern club but combined with this the freedom of the market place and the attractions of a public park, adorned with statues of the gods. "*Studia sapientie*," says Quintilian, speaking of the early imperial times in Rome, XII, II, 8, " * *

* There are slight variations both of the words and translation of this oath. I give what seems best. Some put the taking of this oath after and not before the ephebic training. There can be little doubt that it was taken at about the age of eighteen, even before the word ephebus as a specific and technical term was in use.

in porticus et gymnasia primum, mox in conventus scholarum recesserunt." The Athenian gymnasia of the Academy and the Lyceum gave names to the two great schools of Plato and Aristotle. And later the philosophic schools were themselves sometimes called gymnasia.*

I have already in the earlier part of these lectures on Greek education shown you the meaning of this gymnastic training, and its purpose. It was so important an element in Hellenic education that I shall now add the words of Lucian: "Thus do we exercise our youth, hoping by these means to render them the guardians of our city and supporters of the commonweal, that they will defend our liberties, conquer our enemies, and make us feared and respected by all around us: in peace they become better subjects, are above anything that is base and do not run into vice and debauchery from idleness, but spend their leisure in these useful employments. Our young men are thus prepared for peace and war." And again elsewhere, "Out of the gymnastic struggles another more noble contention springs amongst all the members of the community, and a crown is bestowed, not of pine, of olive, or of parsley, but one with which is wreathed public happiness and private liberty, the ancient rites and ceremonies, the wealth, honour and glory of our country, the safety of every man's property with every good and noble gift we wish from the gods. With that crown these are all inwoven and to this all our toils and labours lead." It was to the religious practices of the home and the great public festivals that the growing youth owed the continued cultivation of the religious sentiment.

I am speaking of the period up to about the middle of the 5th century B. C. Up to that date there is no evidence that the higher education involved study of any kind except for a few of a philosophic turn of mind. The higher education was gymnastic, in so far as it was defined. A retrospect will satisfy us that neither in school nor during the ephebic period had the Athenian a hard time. In the school up to the date given above there was not even geometry, geography, or drawing. The life both of the boy and the youth was easy, and by the help of the slave-system which relieved him from sordid material claims on his energies, he

*Hence in modern times in Germany (and occasionally in mediæval times) a *gymnasium* is the designation of a higher school.

was able to live a more unencumbered life than was, perhaps, altogether good for him. It was, however, always life; and owing to the peculiar genius of the people a life full of interest, freshness, and intellectual as well as bodily activity.

(g) *School and Home-Discipline.*

The school discipline was severe. The rod was freely used both in the literary, music, and gymnastic training. It is not till the times of Seneca and Quintilian, so far as I know, that we find any protest against corporal chastisement, unless we take the remark of Plato, *Rep.* VII, 536, as such a protest:—"In the case of the mind, no study pursued under compulsion remains rooted in the memory. Hence you must train children to their studies in a playful manner and without any air of constraint." It is not to be supposed that even after Seneca and Quintilian the severity of punishment was lessened. The Greeks and Romans, and after them Christian teachers throughout the middle ages and down to very recent times, associated teaching with flogging as a kind of inevitable necessity.

But I commend this to your attention that schoolmasters were held of small account. Nor do I believe it possible that while this class of the community are properly represented as holding a book in one hand and a cane in the other they can ever stand high in social estimation. It is only when we find a high conception of their social functions as essentially a spiritual function to be discharged by the employment of spiritual motives animating teachers themselves, that the rod will be regarded as degrading and the community begin to accord to schoolmasters that respect which then, but only then, will rightfully belong to them. And why? Because then and only then will they work for the intellect through the intellect, for the moral nature through the moral nature. A resort to physical force is to be regarded as a sign of weakness in the educator.

The domestic discipline was more severe than we should expect from the general character of the Athenians, but it is an additional confirmation of the importance they attached to moral training. Strict attention was paid to the little acts of life, such as the manner of sitting at table and of eating. Their manner of taking salt and bread was regulated. Even when the boys had

reached their eighteenth year they were held under strict subordination to their parents, and their demeanour in the streets was prescribed. Modesty of demeanour, respect to older men, and a general becomingness of conduct was strictly imposed, not only on boys, but young men. Both at home and at school and in the palaestra the rod was freely used.

(h) *Education of the Women.*

The women had no school education. It was wholly domestic. The room in which they and their children lived was generally on the upper floor, to which they were mostly confined, except on great festival occasions. Even in the case of young girls the hair was dyed and the eyebrows painted. There would of course be necessarily more freedom among the poorer classes, but even less education. At popular festivals the maidens walked in procession and danced choral dances.* On other occasions the girls were confined to the house, and therefore the Athenian women were for the most part weak, pale figures. The mother gave them instruction in all feminine occupations, in spinning, sewing, weaving, knitting, etc. They sometimes learned a little reading and writing from their mothers, and singing and playing on the lyre. "Special emphasis," says Schmidt, "was in the case of the girl laid on moral training: propriety of conduct, chastity and purity were the most beautiful womanly virtues, and domestic thrift, as well as judicious management of the household the finest womanly qualities." Woman accordingly had not that social and political influence in Athens which she had in Sparta. Their position was little better than that of an oriental wife. Marriages were contracts arranged by parents. The wife had no part even in social entertainments. When her husband had guests she was not allowed to be present at the dinner she had prepared.

Position of the Schoolmaster.—The day-school-master did not take a high position. Demosthenes (De Corona, 258) taunts his great rival with having had to help his father to clean out the

* At the so-called Bear-festival, says Schmidt, (Brauronia) girls between 5 and 10 years of age were every five years consecrated to Artemis, while sacrifices were offered and a passage from the Iliad read—a consecration which was meant to be the symbolic commemoration of a pure virginity.

school when he was a boy and evidently regards the work of a primary teacher as a very humble one indeed. "As a boy," he says (De Corona, 258), "you were reared in abject poverty, waiting with your father on the school, grinding the ink, sponging the benches, sweeping the room, doing the duty of a menial rather than of a freeman's son." There was no public qualification for the office of schoolmaster, and hence, chiefly, his low social status. It was the refuge of the distressed. Lucian, long after the palmy days of Athenian education, condemns tyrants sent to the nether world to be beggars or primary schoolmasters. Accordingly it is absurd to suppose that the aim which the Athenian mind had before it in the education of the young was effectually carried out in the schools. The aim and general method we know—the results were doubtless often disappointing. The Family and the State after all were the chief educators. Only the children of those who fell in battle were educated at the expense of the State. It is only when the State takes up education as a national concern that teachers receive proper remuneration and only when they are professionally trained that they have any status. It appears from an inscription that at Teos there was an endowment for a staff of teachers in the 3d century B. C.* This endowment provided for girls as well as boys.

School Houses.—The school-buildings were not of State origin. The literary, musical, and gymnastic teaching of boys were all given in the houses or rooms provided by the adventure teachers. The gymnasia for the ephebi and grown men were, however, provided at the public expense. There were large enclosures planted with trees and adorned with gardens and shrubberies, monuments, temples, fountains, &c. In the 5th century there were three, the Academy, the Cynosarges, and the Lyceum. They served, as I have already said, the purposes of modern clubs as well as exercising grounds, and also in the course of time they were schools of philosophy and rhetoric.

School holidays and festivals are frequently referred to by the ancients: and what with public festivals to which the Athenians were much addicted and the smaller school festivals, the Athenian boy had an easy time of it.

* See Girard, *L'Education Athenienne* with references.

Contrast Between Athenian and Spartan Education.

The education of the Hellene generally was an education, as we have seen, in gymnastic and music—music comprehending the literary and moral training as well as music in its narrower sense. In gymnastic, including the training to physical endurance generally, the Spartan was much more severe than the Athenian. The Athenian was thinking more of the perfect development of the body and the maintenance of health; the Spartan more of making the body serviceable for the hardest tasks that could be imposed on it. Both, however, had in view the moral control to which good gymnastic training contributes. The Bœotians, again, carried gymnastic into athletics to such an extent as to be hurtful to the bodily growth. Neither the Spartan nor Athenian gymnastic, however, is to be compared with our modern British training by means of organised play. In our games both physical and moral ends are gained in a way which was, I believe, quite beyond the reach of the Greek system, and which fulfils Plato's aim.

In Music, again, the Spartan, as we have seen, was educated, but only in the narrow and modern sense of the word music: religious and national chants, metrical laws, choral songs, and heroic ballads being however taught and indeed largely practised. The Athenian did all this, but, over and above, he acquired skill on a musical instrument, and he carried out musical education in its larger and literary sense of reading, writing, and arithmetic. The study of the national literature and the cultivation of the literary taste by school recitations and by the public drama, were all attended to. The instrument of the education of mind among the Athenians, in brief, was literature, and this chiefly in the form of poetry. The Athenian education was (to use a modern expression) humanistic, and had a very direct connection with the intellectual life of the boy when he became a full grown man. The Spartan education was ethical (in a very narrow sense) and conservative, resting on law and custom as sacred, and admitting of no development.

The Spartan had a narrow and definite aim; the Athenian's aim, though never losing sight of the State, was broad as humanity itself. Reading and writing in so far as they existed at Sparta were esteemed only in so far as they were "useful". The Athenian view on the other hand is well expressed in the already cited re-

mark of Aristotle: "To be always in search of the useful by no means befits men who are magnanimous and who are free-men." "Give the fellow half a drachma, and let him be gone," called out Euclid to his slave, when a pupil asked what advantage he would gain by mathematical study. To pursue even music with a view to being an expert and not in the interests of a liberal education was *bananian*. The Spartan trained the citizen, the Athenian trained the man. Hence in all the arts which adorned human life the Athenians were great. They are still the masters of the modern world. After the school period was over the education of the citizen went on, for it was a mere continuation of the work of the school. The drama, sculpture, architecture, painting surrounded his daily life with the noblest ideals. "We carry them," says Lucian in his *Anacharsis*, "to comedies and tragedies at our theatre that whilst they behold the virtues and vices of past times, they may themselves be attached to the one and avoid the other; permitting our comic writers to expose and ridicule the citizens; and this we do, as well for their sakes who may grow better by seeing themselves laughed at as for that of the spectators in general who may thus escape, being ridiculed, the like absurdities." Thus was Athens throughout the life of each man a perpetual school in the best sense of that word, and not in the Spartan one. In the speech of Pericles, part of which we quoted in the introduction, he is constantly contrasting Athens and Sparta, and the contrast in their lives we see repeated in their processes of education.

Note further that the Athenian was a free and voluntary system, the State merely supervising and laying down general rules, while guarding the morals of the *palæstra* and *gymnasium*. In the laws ascribed to Solon are found injunctions to all parents to educate their children, and also certain rules for the schools, but these are all of a merely regulative character.

The Spartan system was a State-system—compulsory and gratuitous. Herein lies the explanation of its being so hardfast and inelastic. All are cast in one mould; so must it always be with over-centralized administration. This has always to be resisted by a country which prizes freedom and variety of culture.

Sparta took possession of the young citizen at the age of seven; Athens only at the *ephebic* age of eighteen.

When we reflect on the past historical survey we cannot but be deeply impressed by the contrast of East and West.

The concentration of power among oriental nations (including the Egyptians) led also to a concentration of the wealth of these countries and to all the consequent pomp and luxury. Hence a material civilization accompanied by a religious belief which was in its popular form a gross superstition. Among the Hellenic races we first find ourselves in the current of a life with higher aims both national and individual. Here first we find a people living under political conditions which favoured intellectual activity and personal ambition. We breathe the atmosphere of liberty—an atmosphere essential to the life of mind. We also find a religion which, spite of the traditionary tales about the gods, was an æsthetic idealism and intensely human. But it is a superficial conclusion that the favourable conditions made the Greeks: the political and social conditions were themselves part of the expression of the Hellenic spirit. Let me add that for the maintenance of this spirit they relied on the proper upbringing of youth. In nothing were Greek writers more at one than on the necessity of the education of the young with a view to a life worth living and to the security of the State. Plato says (*Legg.* VII, 808.), "A boy is the most difficult of all animals to bring under government and guidance," and even after all that was done, the ethical result, as we know, was not always very satisfactory.

I have endeavoured to place before you the distinctive characteristics of the education of the two great Hellenic types. It has only now to be noted that after the death of Alexander the Great, Hellenic education all round the Mediterranean had more characteristics in common than in earlier times and that the Ionic-Attic idea governed, although at Sparta many of the old customs survived for long after.

I have been exhibiting the general aim and current of Hellenic education only. It is scarcely necessary to guard the reader against concluding that always and everywhere in the Hellenic cities this aim was consciously pursued, or, that even in the most favourable circumstances, it was realized. Even in the golden age of Socrates we have complaints of a degeneracy from a level of education which was probably never reached. The well-known

locus classicus in Aristophanes gives expression to these complaints; but we ought never to attach too much importance to the criticisms of professed satirists or humorists.

"I prepare," he says, "myself to speak
Of manner primitive and that good time
Which I have seen, when discipline prevailed,
And modesty was sanctioned by the laws.
No babbling then was suffered in the school
The scholars text was silence. The whole group
In orderly procession sallied forth
Right onwards, without straggling, to attend
Their teacher in harmonics: though the snow
Fell on them thick as meal, the hardy brood
Breasted the storm uncloaked. Their harps were strung
Not to ignoble strains, for they were taught
A loftier key, whether to chaunt the name
Of Pallas terrible amidst the blaze
Of cities overthrown; or wide and far to spread,
As custom was, the echoing peal."

I shall now speak briefly of the higher education of the few in the 5th century B. C., and thereafter.

S. S. Laurie

University of Edinburgh

EDUCATION AT THE SCHOOL OF ETHICS

Educational gatherings are usually intensely professional. Few attend them except teachers, and few others are expected. Large throngs may swell membership lists when excursion features are attractive, but at the meetings themselves these throngs are seldom present. Perhaps this is not to be regretted. Yet it is also a good thing for education to be discussed in other than professional aspects, and by others than those whose vocation it constitutes. In one corner of New England this last summer such a discussion was actually held, to the pleasure and profit of all who participated in it. This was at the School of Applied Ethics at Plymouth, Mass., during the second week in August.

This school has now been in existence four years, though its sessions were omitted during the summer of 1893 by reason of the Chicago Exposition. It covers four weeks and is organized in three departments,—economics, ethics, and the history of religions. To each of these an hour is assigned on each day. Recognizing that education is a science of conduct, the managers arranged that for one week of the four, the present year, the hour assigned to ethics should be devoted to the discussion of the ethical relations of education. A special committee was organized to arrange the programme and conduct the meetings. The conference on education, as thus provided for, included besides the six morning lectures three that were given in the evening, and after each of these a vigorous discussion occurred. The innovation proved highly successful. The educational hour was the most fully attended of any, the interest was sustained throughout the week, and the total membership of the school appears to have been increased about one-fourth by this conference. Of the audience at least four-fifths were not teachers, but clergymen, graduate students from the universities, or men and women drawn from business or leisure by interest in social and philanthropic problems.

The central topic of the summer's work at the school was the labor problem. The educational conference, therefore, began with a course of three lectures by President MacAlister of the

Drexel Institute, on "The Relations of the School to the Labor Problem." These relations he viewed as industrial, political, and ethical. He declared industrial training to be a natural consequence of the advancement of science and the industrial arts, and claimed for manual training that it not only develops intensity and exactness of perception, cultivates attention, and coordinates the action of mind and body, but also unconsciously establishes habits of industry. It tends to confer an all-around education, at the same time helping the boy to choose the calling for which he is best adapted. Viewing education politically, the speaker thought the obligation binding on a free nation to bring children within the pale of the public school. Education and even the highest opportunities of culture should become as easy to the working-man's son as to the child of wealth. The value of teaching civics and economics was emphasized. Continuation schools for workmen were advocated. The value of technical education was shown from a political point of view. Switzerland, in spite of her lack of raw materials, excels in prosperity because her people are highly educated. Holland, too, is another example of the close relation between education and the development of prosperity and wealth. In the United States, also, it is in education that we shall find the most direct method of working out the labor problem. In speaking of the ethical relations of the school, Dr. MacAlister insisted that our public schools must be secular, as in France, must not include religious instruction, as in Germany, because the state is a secular institution. Alluding again to manual training, he extolled its ethical value. It disciplines the will. The boy gets no credit for anything but true work, hence his judgment is squared. He also gains self-respect and a love of work for work's sake. In closing the lecturer declared pessimism to be the one unpardonable sin. The future is bright and hopeful in view of the power of education as an agency for progress.

The first evening lecture was on "Economic History as an Element of School Teaching," by Professor W. J. Ashley, of Harvard. He called attention to the increasing prominence of economics, but was of the opinion that it would be unwise to teach it to young children. Greater stress might, however, be placed on the economic side of history with older pupils. A letter was read from Professor John B. Clark, of Amherst, asserting

that it was possible and advisable to extend economic teaching even into elementary schools. Then arose an interesting debate. Professor Henry C. Adams of Michigan University would limit the teaching of economic history to high schools, but dissuaded the teaching anywhere below the college of economic theory, which is now unsettled in all its fundamentals. Somewhat singularly, he thought the best preparation for economic study in the college would be the study in the schools of the branches that acquaint the pupils with organic life, as biology; for society is an organism. Is not this carrying an analogy too far? Professor Colby of Dartmouth, Mr. Page of Boston, and others followed. The current of thought was mainly in favor of incidental, rather than formal, instruction in economics in secondary and elementary schools.

In the second evening lecture, Dr. Wm. G. Anderson of Yale dealt with "The Ethical Value of Physical Training." From his lecture it became evident that while ethical results are positively claimed for all the systems of physical training, the exponents of all are at a loss to say with definiteness what they are. Certain things can, however, be said. Gymnastics develop self-control, fortitude, and presence of mind. Athletics demand them even more. To ensure success in them, men must lead a good life. Strict laws of training exclude all forms of evil. The healthful effects of a captain's voice and example are very great. The gymnasium can be made, and at Yale is made, a centre of good influences. In the ensuing discussion Dr. Prince of Newton made a valuable point in declaring that to keep gymnastics from becoming fatiguing and dispiriting, the element of play must be present. Our school gymnastics often err against nature in this respect.

Perhaps the most stimulating address of all was that of Professor Felix Alder, under the title of "Organic Education." His central thought was that one can best do his duty to society by faithfulness to his particular calling. "Vocational duty is the backbone of morality." The choice of vocation has a more decisive and far-reaching influence on character than any other act. Every one should have a paramount purpose. "Concentration is salvation; dissipation is destruction." To most men it is vocation that supplies this paramount purpose. The one thing to try

for in education is to make every boy and girl capable of doing some one thing extremely well. To this end the idea of social service should be made the dominant idea of the school, each pupil should be led to discover for what particular kind of service he is fitted, and should be prepared for that service. The schools should become talent-saving stations along the shores of poverty, rescuing from mental death many who are now left to sink in the waves of ignorance.

Another address was by Professor Wm. H. Burnham, of Clark University, on "The Educational Movement in Europe in Relation to Social and Political Movements." He traced the progress of the democratic idea in the development of the school and the university, first in England, then in Germany, and finally in France. He showed that the modern educational movement cannot be understood except as a part of political and social development. Habit is strong; ideals conflict with past customs, and the school lags. In Germany the conservative and democratic ideas are in especial conflict, but everywhere the school shares the unrest of the times. There must be a coördination of the different factors of education, and the school must do more to form character.

One evening Professor George H. Palmer, of Harvard, gave a charming address on "The School as an Ethical Instrument." He holds that the primary aim of the school is not moral but intellectual, and that the school should hold mainly to its intellectual work. The ethical results to be expected should come unconsciously to the child, chiefly through his relation to the teacher as one more complete than himself and to the school as a social unit. Such ethical results are of great value. Formal instruction in ethics should be delayed until reasoning has been well developed and, inasmuch as it tends to self-consciousness, should be used with extreme caution. It is doubtful if we are helped much in resisting passion and special temptation by what we know of ethical systems; it is habit and the influence of high ideals that supply restraint. Ideals should be fixed through the lessons of literature and habits established under the unconscious pressure of the personality of the teacher and the atmosphere of the school. In the discussion that followed, Dr. Adler expressed his belief that more can be done by direct instruction than the lec-

turer had intimated. He had found lessons drawn from the Old Testament very useful in character building. The *Odyssey* also was a source of good material. The present writer asked if the term, literature, as used by Professor Palmer should not be interpreted as inclusive of history, inasmuch as biographies and other historical narratives furnish admirable ideals for school use. He also drew attention to the value of "cases of discipline" as occasions for specific moral training. Professor Hanus, of Harvard, objected to the lecturer's view that the primary aim of school education is intellectual. The main purpose of the school, in his opinion, is the discovery and development of aptitudes and the supply of high motives. These have a distinctly ethical character. Dr. Prince believed that both were right. While the intellectual aim is the primary one, the ethical results are undoubtedly the most important. Mr. Ingraham and Miss Keyes continued the discussion. Then Professor Palmer answered objections, reiterated his main contention, and particularly urged the filling of the memory with noble passages of literature as a means of moral help.

The closing lecture was by Mr. James L. Hughes, of Toronto, on "The Ethical Element in the Kindergarten." This element he found to be the predominant one in Froebel's plan. Indeed it was because Froebel believed that the child had glorious possibilities for good that he designed the several stages of child play and occupation as helps to the development of that good. This thought was illustrated with much elaboration.

Thus the conference came to an end. The committee in charge of it, Messrs. Dutton, Page, Peabody, Miss Wheelock, and the writer, have been freely congratulated on its success. It secured the examination of some school problems by thoughtful men and women who have diverse points of view. It has put courage, also, into the heart of teachers as they have noted how thinkers from the fields of economics, religion, and sociology alike are looking to public education for help in settling social difficulties. Evidently the school is becoming increasingly an element to be considered by all students of social dynamics. In view of the interest aroused, the experiment is likely to be repeated on a larger scale at the next session of the School of Ethics.

Cambridge, Mass.

Ray Greene Huling

FREEDOM FROM PRESCRIPTION AN ESSENTIAL CONDITION OF SUCCESS IN OUR SECONDARY EDUCATION

The leading spirits who have inaugurated diversity and freedom in the upper education seem determined that the secondary schools shall submit to prescription and confine studies within a few regular courses. Such is the German and the French idea,—no choice in gymnasium and lycée, no restriction upon choice in the university. Matriculation is a sudden emancipation of the will from fetters, an entire committal of the youth to his own volitions.

In this country the tendency of the secondary schools has been towards diversity. Here and there courses have been confessedly broken up and abandoned, and selection of studies has been allowed. But this tendency towards diversity has shown itself chiefly in the multiplication of kinds or species of schools. Once the only existing school, the Latin school sees itself now the companion on equal terms of a family of sisters which new needs have called into being. All our larger cities are coming to have English, scientific, industrial, commercial, mechanical, high schools. Rarely is a new high school established on the old plan. A new school is an opportunity for the embodiment of a new idea. Modern needs are always consulted. Conservatism is powerless before the spirit of the age.

So also different cities have come to have different schools, not being required by law to follow any one model, but always yielding to public demand. On this school a certain teacher has left the mark of his genius; this school has known how to resist calls for change, and continues yet for a season to show how things were done a generation ago; this school has promptly lopped off studies it could not make interesting, and has added such as it deemed more in accordance with the tastes of youth; this school notably makes work easy,—its diploma is lightly won; this school as notably lives rigidly up to its professions, and its certificate is a weighty document; in this school modern interests are subordinated to the ancient languages; in this the outfit for the teaching of science is peculiarly good, and the scientific teaching

is especially earnest and thorough; in this the pupils actually learn to speak French; in this the conviction prevails that learning to speak a foreign language is impossible.

In America, therefore, education has been developing according to its own law. It will not accept the German model. It cannot possibly endure to be dictated to. Checked now and then by theorists, it will yet go on developing in its own way. This is the way of freedom. Wherever parents plead that their children may take such and such studies, the canonical courses will give way. No school board, in establishing a course, can surround its action with safeguards so solemn that next year's board may not undo everything. Unless courses of study can be got into the state constitutions, there is no hope of their permanence. The gymnasium and the lycée are impossible in America.

A perpetual throttle upon this wholesome freedom of development is the existence of our requirements for admission to college. Though these requirements have been much liberalized in recent years, they still operate as a constricting and prescriptive influence. The college catalogue speaks with an authority wholly factitious, and lays upon secondary teachers a pressure that is artificial and external. Secondary teaching has its own ideals, wholly aloof from the pride of passing examinations. It has its inherent limitations, its own urgent problems. It needs no moulding from alien hands, no goading and nagging by spectators.

The first condition of success in American education is freedom,—freedom to speculate, to experiment, to choose, to reject. No thinker, or committee of thinkers, can prescribe its aims, methods, or proportions. In the long run the American public is sure to have its way; and as this public wants a great many things, its way is sure to be the way of infinite diversity and variety. The one unthinkable thing in our education is uniformity in schools and courses.

S. Thurber

BOOK DEPARTMENT

A full description of the books received, giving size, price, etc., will be found in the list of "Publications Received" in this issue, or, generally, in a preceding issue of the SCHOOL REVIEW.

A History of Mathematics. By FLORIAN CAJORI, Professor of Physics in Colorado College. pp. 422. New York and London: Macmillan & Co., 1894.

This history of the rise and progress of the various branches of mathematics is divided into four periods, viz: Antiquity, Middle Ages, Modern Europe, and Recent Times. Under the first head is given an account of the study of number and its notations by the Babylonians, of number and *practical* geometry by the Egyptians, of number and *theoretical* geometry by the Greeks in the Ionic, Pythagorean, Sophist, Platonic, and the first and the second Alexandrian school, and an account of the beginnings of algebra among the Greeks, and of the general lack of the mathematical spirit among the early Romans. The second division recounts the progress made in arithmetic, algebra, geometry, and astronomy by the Hindoos, Arabs, and Europeans of the middle ages.

The third period begins with the capture of Constantinople by the Turks, and recounts the inventions and discoveries of such intellectual giants as Tartaglia, Cardano, Vieta, Descartes, Newton, Leibnitz, Euler, Lagrange and Laplace.

The last part gives a clear, concise, and critical account of the recent development of Synthetic Geometry, Analytic Geometry, Algebra, Analysis, Theory of Functions, Theory of Numbers, and Applied Mathematics.

The work is thoroughly indexed, and the 101 books, pamphlets and articles used in its preparation are referred to by number in the text. Its pages bear the marks of great care and candor in ascertaining facts and in their judicial balancing.

Its style is clear, concise, and so enlivened by anecdote as to interest even the young reader.

The contemplation of the various steps by which mankind has attained its vast store of mathematical knowledge is instructive as well as entertaining, and to give to many of the old problems their full meaning and interest it is indispensable. It teaches that the false even may open a larger field of inquiry and lead to more genial and efficient methods of investigation, as in the case of the indivisibles of Cavalieri. It illustrates how the authority of great minds may lead their successors to accept absurdities as fundamental principles, and may repress candid inquiry, as was so long the case regarding the so-called axioms of the infinitesimal calculus.

The growing impression that no subject loses more than mathematics by a neglect of its history makes the appearance of this work most acceptable to every earnest and progressive teacher. We cannot too strongly urge the free use of this volume by all teachers and students.

Colgate University

James M. Taylor

The Gate to the Anabasis. By CLARENCE W. GLEASON, A. M., Master in the Roxbury Latin School. Ginn & Co.

In 1514 a little Greek text-book was published in Strasburg, bearing a long Latin title, which ended with the words: *Lector, eme, lege, et gaudebis*. The publication of little Greek text-books has continued from that day to this, and the book before us is the latest that has come to our notice. From the examination that we have given it we are inclined to speak favorably of the manner in which the compiler has carried out his purpose. The contents of the first book of the *Anabasis* are given in easy Greek and thus the learner is introduced early to the study of connected Greek prose. Following the text are seventeen pages of *Colloquia*, which, with some aid from the teacher, may be made, as the compiler hopes, to add interest to the lessons and afford useful practice in forms and syntax. We do not, however, think it likely that they will lead to much speaking of Greek among the average boys, at least not outside of the class room. The vocabulary gives the Latin corresponding to many of the Greek words; this is commendable. At the end are 46 word-groups, giving together the words belonging to different stems. This can be used to advantage even with young pupils: *Eme, lege, et gaudebis*.

Rutger's Grammar School

E. R. Payson

Myths of Greece and Rome. By H. A. GUERBER. American Book Co.

This is a charming and intensely interesting book. It is made interesting because it was written to be listened to and not to be read; and the author has fittingly dedicated it to the teachers in whose schools he first delivered these lectures—for of such is the book composed. It will interest all from the primary grade to the university. The quotations from the poets are frequent and brief, hence do not tire us. The author has most properly placed the analysis of the myths in the closing chapter, which the student will be eager to study after he has read what goes before. The glossary is full and complete, with which the index is combined. The illustrations are clear and copious. The teachers of literature will welcome this book. As a reference book for the classical and the English pupil, it will do better service than any of which we know.

Los Angeles (Cal.) High School

E. E. Cates

NOTES

Babyland is a charming monthly visitor for the little folks and their mammas, too. Alpha Publishing Co., Boston.

Lessons in the New Geography, by Prof. Spencer Trotter, of Swarthmore college, Pennsylvania, is the title of a book soon to be published by D. C. Heath & Company.

John Fiske, who has recently completed a *School History of the United States*, had conferred upon him at Harvard's last commencement the degree of LL. D. This is a worthy tribute to America's greatest historian by America's greatest university.

At the meeting of the North Carolina Association of Colleges held in April, the most noteworthy action was the appointment of a committee of 15, 5 college men, 5 public school men, and 5 private school men to make a report on preparatory education in its relation to the colleges and universities.

The Pathfinder comes from Washington as a real newspaper for young Americans. Its purpose is to instruct in the entertaining way by presenting the best news of the week in an attractive form for young persons. The plan is excellent and the paper so far merits favor. It is in competent hands, and promises to be a permanent addition to our educational forces.

Professor W. M. Davis, who has done so much to improve the teaching of geography, has recently prepared and published a *List of Geographical Lantern Slides*, with directions for obtaining the same. The pamphlet may be obtained for ten cents of the Publication Agent, Harvard University. The list is invaluable to teachers of geography who have a lantern at their command.

Allyn & Bacon have just issued an edition of *Nepos* by John C. Rolfe. Professor Rolfe has provided an excellent introduction, ample commentary, a carefully constructed vocabulary, and sufficient exercises for composition. Like the editor's edition of *Viri Romae*, the book is exceptionally well printed and altogether makes a thoroughly satisfactory edition of *Nepos* for school use. (Price, \$1.10.)

Ginn & Co. will publish in time for fall use *The First Latin Book*, by W. C. Collar, Head-Master of Roxbury Latin School, and M. Grant Daniell, Principal of Chauncy-Hall School, Boston. Introduction price, \$1.00. The book was first announced as *The Shorter Beginner's Latin Book*, but this title was discarded because it seemed to present the new book as a revision of its predecessor.

Messrs. Allyn & Bacon have added to their series of English works, Irving's *Sketch Book*, edited by Elmer E. Wentworth. The commentary is brief—fifteen pages in all—and in method follows the example set by Mr. Thurber in his well-known editions of Macaulay and Addison in the same series. The book is well printed on good paper, and makes a very attractive volume which ought to tempt the schoolboy to preserve it as a permanent member of his library. (Price, 60 cts.)

D. C. Heath & Co., Boston, have in press for immediate issue in their "Heath's Modern Language Series" Lessing's *Nathan der Weise* edited with Introduction, Notes and Bibliography by Dr. Sylvester Primer, Professor of Germanic Languages in the University of Texas, who is well known by his scholarly edition of Lessing's *Minna von Barnhelm* in the same series. This edition of the "Nathan" will be in every way a superior work and the drama itself stands second to "Faust" alone in German literature.

The American Book Company has published recently *White's New Course in Art Instruction, a Manual for Fifth Year Grade*, including an outline of the year's work. The introductory chapter describes the plan and method of the course and outlines a "logical course in art instruction for grammar schools, covering six years, *i. e.*, from the fourth to the ninth inclusive. The work of the fifth year is then outlined in detail and illustrated under the general heads of Geometrical, Decorative, and Pictorial Drawing. The directions are sensible and well expressed, and the illustrations, aside from their utility, add beauty to the work. Price, 50 cts.)

The Lawrence Scientific School has issued an interesting announcement of four years' course in science for teachers. The course here offered combines a training in science with a professional training for students who are preparing to teach. The new course is established because it is believed that the growing demand, justly emphasized in the recent report of the Committee of Ten, for "more highly trained teachers than are

now ordinarily available " should be met by suitable provision for such training in scientific schools and colleges. The attention of graduates of normal schools who look forward to teaching science is especially called to this course.

D. C. Heath & Co., Boston, have recently completed and published the *Educational and Industrial System of Drawing*, the author of which is Langdon S. Thompson, now supervisor of drawing in the public schools of Jersey City, N. J., and formerly professor of drawing in Purdue University, Indiana. This system is divided into a Manual Training Series of two Manuals especially for the teacher's use; a Primary Freehand Series of four books and a teacher's Manual; an Advanced Freehand Series of four books; a Model and Object Series of three books and Manual; an Aesthetic Series of six books and Manual; a Mechanical Series of six books and Manual. The earlier series have already been received with much favor by educators and have been accorded a wide introduction.

We hardly know how to describe *Oxford and Her Colleges*, by Goldwin Smith (Macmillan). But we know it is delightful. As we read we seem to breathe the very atmosphere of the old university; we are students there. We have a dim conviction that our M. A. gives us the freedom of the Convocation. In his preface Mr. Smith says: "The writer has seldom enjoyed himself more than in showing an American friend over Oxford." After reading his book we are very sure we envy the lot of the American friend, rejoicing, too, that the author was pleased to become by his pen the guide to thousands whom voice and hand might never lead. The book can be carried in the outside pocket of a sack coat, and every American who visits Oxford hereafter in body or spirit will miss much if this little volume be not his companion. It has great value, too, for the student of education, for one could hardly find elsewhere so clear and concise an account of the early history and customs of universities which were in their beginnings much more alike in all countries than they have remained, largely, perhaps, because clerical Latin was the universal language, so that transmigration of students from Oxford to Paris, for example, or *vice versa* was easy and not uncommon.

The Report of the Commissioner of Education for 1890-91 did not reach the SCHOOL REVIEW in time for notice in an earlier number. We hope that before this each of our readers has been fortunate enough to add the report to

his library. The teachers of the United States have reason to be proud of the work that Commissioner Harris is accomplishing, and grateful for the service rendered by his reports in their professional labors and investigations. We commend again, as we earnestly have done before, the publications of the Bureau of Education to the serious covetousness of United States teachers. Nowhere else is so much necessary information so easily available. But all government publications seem fated to be regarded as of little value because, forsooth, they can, by proper representations, be obtained gratis. And yet they are prepared with such scientific accuracy and at such enormous cost as no other publications ever command. They ought to be more widely distributed and more heartily appreciated. The wise distribution can come only through the anxious coöperation of those who ought to want the reports. The Report for 1890-91 has so many valuable features that they cannot even be enumerated here. Suffice it, then, to say that in addition to the most reliable statistics yet accumulated by the Bureau as to our own school system in all its departments and grades there are excellent sketches of school work in several foreign countries, partly recapitulations of the monographs included in the two preceding reports and partly new.

In order to preserve the valuable papers and discussions of the fifteen educational congresses held July 25-28, 1893, the National Educational Association, under whose auspices these congresses met, undertook the publication of the proceedings. This has been accomplished at great labor and expense, and the resulting volume is by far the most valuable ever issued by the Association.

The cost of publication far exceeds the amount received for annual memberships in 1893, and the Association can be saved from loss only by extending the sale of this volume to a second edition.

M. Gabriel Compayré, who took a prominent part in the meetings, said in "*Revue Pédagogique*":

"The entire field of education, considered in its principles and psychological foundations and studied under all its forms and in all its consequences, was open to discussion. The summary of the works of the Congress, when published, will be a true encyclopedia of pedagogy."

Dr. Wm. T. Harris, United States Commissioner of Education, under whose able direction the Congresses were organized, says of the Proceedings:

"It is a most remarkable collection of educational views and opinions, showing the educational ideals set up by various nations, and, in a measure, also the methods employed in realizing these ideals. The classification and arrangement of the contents make the volume particularly valuable while an exhaustive and partly analytical index greatly facilitates its use.

"It contains translations of all or nearly all of the papers furnished by foreign delegates, and in this respect is unique because the other International Congresses of Education have never been able to collect the speeches and papers offered at their sessions. It is true also that the foreign delegates present at Chicago were more numerous and more distinguished in ability than the same class present at any previous international congress. I believe that this volume of proceedings should have a place in the library of every American educator. I trust that the thousands of teachers who were not able to attend the Congresses will avail themselves of this opportunity to procure a complete report of the proceedings."

The Executive Committee, believing that the aims of the Association in publishing this volume will be best attained by securing the largest possible circulation at minimum cost, have decided to retain the price at \$2.00 per copy (subject to express charges) or \$2.50 per copy delivered postpaid in the United States or in any country of the Universal Postal Union. Orders with remittances may be made to N. A. Calkins, Chairman of Board of Trustees, 124 East 80th St., New York City; J. M. Greenwood, Treasurer, Kansas City, Mo., or Irwin Shepard, Secretary, Winona, Minn.

The Harvard Teachers' Association in its plan and purpose is capable not only of doing important work directly, but also of serving to some extent as a model for other organizations formed about other Alma Maters as centres. We therefore think its organization worthy of somewhat extended notice.

What follows represents the present aims of the Association. It is proposed:

1. To hold the annual meeting of the Association at the University on the Saturday preceding March 10th of each year. This time was chosen because there are not likely to be other important educational gatherings in this vicinity near that date; it is, moreover, a better time than mid-summer for obvious reasons.

2. To devote the meeting to the consideration of a single educational question from three points of view—that of the college, the secondary school, and the elementary school, when the subject presents these three different aspects, as will usually be the case; otherwise, from such points of view as may be appropriate. Examples of such questions are: The Study and Teaching of Mathematics, or of Latin, or of Science; the Function of Supervision; the Professional Training of Teachers. By bringing to bear on the discussion of such questions the thought and the experience of Harvard teachers in their various fields of work, the Association may stimulate and guide its members, and become an educational force of great value.

3. To print the papers and discussions, so soon as the membership is large enough to justify the expense involved. After the last meeting many inquiries were addressed to the Secretary asking if the papers read were to appear in print. Some of those papers have been published by educational journals, and have in this way become accessible. But these papers belong to the Association, and should be distributed by it and not by other agencies. The discussions, too, are quite as valuable as the papers, sometimes more valuable than the papers. These are lost altogether, unless prompt steps are taken to preserve them. By printing both the papers and the discussions the Association would gradually produce a valuable body of educational literature.

4. To furnish a trustworthy annual list of the names and precise occupations of the members of the Association.

5. To disseminate information concerning educational reforms and interesting educational movements in any part of the country. The members of the Association, now 116 in number, are at work in all parts of the United States. Never before has there been so much intelligent experimenting in education as at present. It will be possible, by means of our leaflets, for every member of the Association to learn at the earliest possible moment something of what is being achieved.

6. To this end, to issue not less than six of the leaflets of the Harvard Teachers' Association during each school year, and to have them contain more matter than heretofore. Members of the Association and other persons are hereby invited to communicate with the Secretary in respect to educational movements of general interest initiated or carried on in their respective communities.

7. To submit to the Association at its next annual meeting a proposition whereby persons who have never before been officers or students at Harvard University may become honorary or associate members.

8. To assist the members of the Association, through the Secretary, so far as his time may admit, in the choice of professional literature, and in questions pertaining to the details of their work; *e. g.* in problems concerning the organization and management of schools, and in the selection of teaching apparatus, such as text-books, reference-books, and laboratory supplies.

COMMUNICATIONS, QUESTIONS AND ANSWERS

THE SCHOOL REVIEW aims to serve its subscribers in every practicable way. A good many letters now come to the editors, asking for information on some special topic. These have heretofore been answered by personal letter. But questions that occur to one will doubtless occur to others who do not write, so that answers, if printed, may help a number of others as well as the one who asked the question. We shall be glad, therefore, to have from our readers questions that they cannot easily get answered where they are, with one provision,—such questions must always relate to the teacher's vocation. If we cannot answer them in the office we may refer the letter to some specialist, of whom many are ready to help us in this way. In this case the answer may be delayed for a time, but will be the more valuable when it comes. We also invite short communications on matters of interest to our common work. In short, the aim of this department is to furnish an open account for our readers. It rests with our subscribers to determine whether this department shall become a strong, permanent feature of the SCHOOL REVIEW, or whether, after a feeble existence, it shall be discontinued.

CURRENT EDUCATIONAL LITERATURE

Studies of Childhood. By JAMES SULLY, M. A., LL. D. II. *The Imaginative Side of Play.* Popular Science Monthly, September, 1894.

Child play may be described as the working out into actual visible shape of an inner fancy. The actual surroundings may supply the starting point, but this suggestion by something present is accidental. The root impulse of play is to realize a bright, pretty idea; hence its close kinship with art as a whole. The desire to be something, to act a part, is the fundamental impulse of play. The child adventurer, as he personates Robinson Crusoe, steps out of his every-day self and so out of his every-day world. Thus he virtually transforms his surroundings, since they take on the look and the meaning which the part assigns to them.

The impulse to act appears early and grows out of the imitative instinct. There is no need to suppose that the child consciously acts a part. A child is one creature when it is truly at play, another when it is bent on astonishing or amusing you. When at play it is possessed of an idea and is working this out into visible action. That the instinct springs out of the deepest and least sophisticated part of the child nature is shown by the fact that it comes out most distinctly when the child is alone.

The essence of play is thus in a sense dramatic, though unconsciously so. The actual external surroundings play a greater or less part, according to the needs of the players. A step toward a more realistic kind of play action is taken when a scene is constructed, the chairs and sofa turned into ships, carriages, a railway train, and so forth. Yet the scene is but a subordinate part of infantile play. Next to itself the child wants a living companion. Something alive there must be, or something to simulate life. Perhaps the most interesting feature of childish play is this transmutation of the most meagre and least promising things into complete living forms. The doll takes a supreme place in this fancy-realm of play. The vivification of the doll is the outcome of the play impulse, and this is an impulse to act out, to realize an idea in outward show. The absorption in the idea and its outward expression serves to blot out the incongruities of scene and actors which a cold observer would note.

The intensity of the imaginative realizing powers in play is seen in the stickling for fidelity to the original in all playful reproduction.

Pictures and artistic reproductions generally are another domain of childish activity where we may observe a like suffusion of the world of sense by imagination.

In the forms in which children's play works itself out we see a good deal more of the child's mind; we see intelligence and, to some extent, also character. In his play we seem to catch the child in his own world, acting out his own impulses without stimulus, guidance, or restraint from others. Here he creates his own world—a world which, like those we all create in our several fashions, bears on every feature the stamp of the creative mind.

School Excursions in Germany. By J. M. RICE. The Century, September, 1894.

An account of a school journey undertaken in the summer of 1893, as a preparation for the study of the history of the Reformation. The class of boys were from ten to twelve years old, and they travelled first to Bavaria to study the appearance and customs of a Catholic country, and thence through the Thuringian forest, particularly through those regions where Luther lived while translating the Bible. The account affords many suggestive glimpses of German methods of instruction and its results.

Teaching by Travel: A School Excursion from Indiana to Virginia. By J. M. RICE. Forum, September, 1894.

Dr. Rice's experience of the benefits derived from the school excursion in Germany, inspired the school authorities of Anderson, Indiana, to make the experiments which Dr. Rice chronicles in the September number of the *Forum*. The route over which his party travelled is described and various interesting details recounted, and finally Dr. Rice has a word of criticism on the pedagogic value of his trip and offers suggestions for the guidance of those who may wish to experiment in this direction.

FOREIGN NOTES

The Schoolmaster, (London) July 7, 1894.

Mr. Acland, speaking at Shoreditch last Friday, said: "He was constantly told that he was overdoing the thing, that he was giving too much education, and that it was dangerous to aim so high; but he replied that if it were properly understood what was meant by the ladder and by education in the true sense of the word, so far from being a mistake, it was the very best thing the nation could do. The ladder was not merely a mechanical one from the elementary schools to the universities—it must be something more and better than that; it must be the ladder, if they were wise, to an honourable life and character. If it was not that, let them do away with it altogether. Let them remember what the use and end of education really was—it was to train them, not merely in knowledge of books, but in habits of mind, which would make them better in their home lives, better workers, and more responsible citizens when they grew up."

TECHNICAL EDUCATION.

Journal of Education, (London) August 1, 1894.

Sir John Donnelly gave an interesting address, at the gathering of local representatives for technical education in the county of Northumberland, at Rothbury, on the 4th ult. He concluded with a "word of advice" which should be constantly reiterated. "Within the last few years everybody had been agog with technical instruction. In all such cases there was likely to be a reaction, or swing of the pendulum, and unquestionably that would come unless they would realize they were not going to do much with technical instruction in a year, or two years, or five years. The outcome they must look for would be ten, fifteen, or twenty years hence. They would then begin to realize what the effect of this great movement was. But if people were beginning to cut the crop within a year or two they would find very little in the ear."

GERMANY.

Journal of Education, August 1, 1894.

We gave in our July number some particulars as to the condition of governesses and women teachers in private schools. We now deal with the circumstances of National Schoolmistresses (*Volksschullehrerinnen*).

The chief grievances of which they complain are the want of uniformity in all that concerns them, and the inferiority of their position as compared with that of men teachers. The number of lessons they are required to give weekly varies from a minimum of twenty in Barmen and Stettin to a maximum of thirty in Dresden, the average number being about twenty-five; nor does this seem excessive: it is less than is exacted from masters in the same class of schools. The commencing salary is in country districts, as a rule, very small; in the towns it ranges from £45 (Koblenz) to £80 (Frankfurt a. M.). The maximum salary to which it is possible to rise shows again great inequalities; in Bingen it is £70, in Frankfurt a. M. it is £130; and the length of service by which an increase is earned varies with the locality. The average maximum salary may be taken at £95. At Frankfurt the maximum is reached by fifteen years' service; Gotha, which pays as a maximum the lordly sum of £75, requires the schoolmistress to serve for thirty years before she becomes entitled to it. Gotha merits a high place in the calendar of meanness.

SCHOOL HYGIENE.

The Schoolmaster, Sept. 1, 1894.

That was a wonderfully interesting address Mr. Sharpe gave sometime since at Toynbee hall, to school managers, even if, in some respects, its suggestions must, as things stand to-day, be taken as counsels of perfection. For instance, the proposal that photometers should be placed in every room to mark the quantity of light that falls in the darkest corner, is a most admirable one, only unfortunately one must not expect to be too nice about children's eyesight when purses are empty, and ends are with difficulty made to meet. Then again the plan of placing in each room a jar containing the suitable chemical solution which shall detect and mark with its blushes the presence of impure matter in the air, is a most delightful idea. And so inexpensive, too! Only it would condemn at once and persistently, in a voice that could not be disregarded, so many of the class rooms of the country as unfit for human habitation, that reforms would *have* to be undertaken. At present we are more or less blissfully ignorant of the extent of the mischief; and if a little one goes out sick of an afternoon, there is always the weather to fall back upon, or, if it be a teacher, one must expect to be "out of sorts" occasionally, of course.

PUBLICATIONS RECEIVED

PEDAGOGY

FLÜGEL: Zeitschrift für Philosophie und Pädagogik herausgegeben von O. Flügel, Wansleben b. Halle, and W. Rein. Jena. Erster Jahrgang. Erstes Heft. Zweites Heft. Drittes Heft. Viertes Heft. Langensalza Verlag von Hermann Beyer & Söhne Herzogl. Sachs. Hofbuchhandlung. Dieses Zeitschrift erscheint jährlich in 6 Heften. Preis des Jahrgangs 6 M. Size $6\frac{1}{4} \times 9\frac{1}{4}$ in. Paper Cover. pp. 328.

REIN: See Flügel.

SHINN: University of California Studies. Notes on the Development of a Child. Part II. By Millicent Washburn Shinn, Cand. Phil. Size $7 \times 10\frac{1}{2}$ in. pp. 89. Berkeley: Published by the Regents of the University, 1894.

University of California. Department of Pedagogy. Catalogue of Books in the Pedagogical Section of the University Library. Size $5\frac{1}{2} \times 9$ in. pp. 66. Berkeley: Published by the Regents of the University, 1894.

The Consolidated School Law of the State of New York. Approved May 8, 1894, and to take effect January 1, 1895. Prepared under the supervision of James F. Crooker, State Supt. of Public Instruction. Size 6×9 in. pp. 157. Albany: James B. Lyon, Printer, 1894.

Ohio School Laws in Force April 27, 1893. Also a Set of Blank Forms and Directions to Serve as a Guide for School Officers. Size $6\frac{1}{2} \times 9\frac{1}{2}$ in. pp. 192. The Laning Printing Co., Norwalk, Ohio.

STATE REPORTS:—

Nineteenth Biennial Report of the Superintendent of Public Instruction of the State of Illinois. July 1, 1891-June 30, 1892. Size 6×9 in. pp. 364. Springfield, Ill.: H. W. Rokker, State Printer and Binder.

State of Kansas. Department of Public Instruction. Eighth Biennial Report, for the years ending June 30, 1891, and June 30, 1892. Size 6×9 in. pp. 154. Topeka, Kansas: Press of the Hamilton Printing Co., Edwin H. Snow, State Printer.

Report of the Superintendent of Public Instruction of the State of Kentucky, for two years ending June 30, 1893. Property of the State of Kentucky. Size $6\frac{1}{2} \times 9\frac{1}{2}$ in. pp. 696. Frankfort, Ky.: Printed by the Capital Printing Co.

Forty-fourth Report of the Public Schools of the State of Missouri for the School Year ending June 30, 1893. Size $6 \times 9\frac{1}{2}$ in. pp. 217. Jefferson City, Mo.: Tribune Printing Company, State Printers and Binders.

Thirty-ninth Annual Report of the State Commissioner of Common Schools of Ohio, for the year ending August 31, 1892. Size $9\frac{1}{2} \times 9\frac{1}{2}$ in. pp. 260. The Laning Printing Co., Norwalk, Ohio.

Fortieth Annual Report of the State Commissioner of Common Schools of Ohio for the Year Ending August 31, 1893. Size $6\frac{1}{2} \times 9\frac{1}{2}$ in. pp. 361. The Laning Printing Co., Norwalk, Ohio.

Biennial Report of the State Superintendent of Public Education to the General Assembly, 1892-3. Size $5\frac{1}{2} \times 8\frac{1}{2}$ in. pp. 149. Baton Rouge: The Advocate, Office Journal of the State of Louisiana, 1894.

Forty-seventh Annual Report of the Superintendent of Public Instruction of the State of Michigan, with Accompanying Documents for the year 1893. Size $6\frac{1}{2} \times 9\frac{1}{2}$ in. pp. vi+412. Lansing, Mich.: Robert Smith & Co., State Printers and Binders.

Fortieth Annual Report of the Superintendent of Public Instruction, for the School Year ending July 25, 1894. Vol. I and II. With Appendix Views of School Buildings. Size (each vol.) 6×9 in. pp. 1247. Albany: James B. Lyon, State Printer.

Report of the Superintendent of Public Instruction of the Commonwealth of Pennsylvania, for the Year Ending June 5, 1893. Size $6 \times 9\frac{1}{2}$ in. pp. 430. Clarence M. Busch, State Printer of Pennsylvania.

Forty-fourth Annual Report of the State Board of Education, together with the Forty-ninth Annual Report of the Commissioner of Public Schools, of Rhode Island, January, 1894. Size 6×9 in. pp. 213. Providence: E. L. Freeman & Son, State Printer.

Annual Report of the State Superintendent of Public Instruction for Tennessee, for the Scholastic year ending June 30, 1893. Submitted to the Governor. Frank M. Smith, State Superintendent. Size 6×9 in. pp. 306. Nashville, Tenn.: Franc M. Paul, Printer to the State.

Statistics of the Public Schools in Wyoming, for the year 1893. Prepared by Stephen T. Farwell, Superintendent. Cheyenne, Wyoming.

ANCIENT LANGUAGES AND LITERATURES

- BENNETT: College Series of Latin Authors. Tacitus Dialogus de Oratoribus. Edited, with Introduction, Notes and Indexes, by Charles Edwin Bennett, Professor of Latin Language and Literature in Cornell University. Size 5x7½ in. pp. xxviii+53. Price 80 cents. Ginn & Co.
- GLEASON: School Classics. The Gate to the Anabasis. With Colloquia, Notes, and Vocabulary, by Clarence W. Gleason, A. M., Master in Roxbury Latin School. Size 4¼x6½ in. pp. iv+47. Ginn & Co.
- LORD: The Roman Pronunciation of Latin. Why we use it and How to use it. By Frances E. Lord, Professor of Latin in Wellesley College. Size 5x7¼ in. pp. 56. Price 40 cents. Ginn & Co.
- PERRIN: College Series of Greek Authors. Edited under the Supervision of John Williams White and Thomas Day Seymour. Homer's Odyssey. Books V-VIII. Edited on the Basis of the Ameis-Hentze Edition by B. Perrin, Professor in Yale University. Size 5¼x8 in. pp. 186. Price \$1.50. Ginn & Co.

MODERN LANGUAGES AND LITERATURES

- ALLPRESS: See Fischer.
- ARNOLD: Maynard's German Texts—No. 2. Fritz auf dem Lande. von Hans Arnold. Edited by R. J. Morich. Elementary Text with Notes and Vocabulary. Size 4¼x6½ in. pp. 92. New York: Maynard, Merrill & Co.
- BECKER: Ulysses und Der Kyklop von K. F. Becker. Edited by W. S. Lyon, M. A. Elementary. Size 4½x6½ in. pp. 71. Price 25 cents. New York: Maynard, Merrill & Co.
- BRUNEAU: Maynard's French Texts—No. 2 Mêle—Toi De Ton Métier. par Mlle. L. Bruneau. Edited by W. S. Lyon, M. A. Beginner's Text with Vocabulary. Size 4¼x6½ in. pp. 52. New York: Maynard, Merrill & Co.
- BRUSIE: See Storm.
- FISCHER: Maynard's German Texts—No. 5. Die Wandelnde Glocke. Von Wilhelm Fischer. Edited by R. H. Allpress, A. M., Assistant Master at the City of London School. Elementary Text with Notes and Vocabulary. Size 4½x6½ in. pp. 96. Maynard, Merrill & Co.
- LYON: See Becker.
- LYON: See Bruneau.
- MINSEN: La Belle Au Bois Dormant. Le Chat Botte. Edited by B. Minssen, M. es A. Beginners' Text with Vocabulary. Size 4½x6½ in. pp. 24 text, 20 vocabulary. Price 30 cents. New York: Maynard, Merrill & Co.
- MORICH: See Arnold.
- ROLLINS: Preparatory French Reader with Notes and Vocabulary, by George W. Rollins, Master in the Public Latin School, Boston. Size 4¼x6¼ in. pp. vi+67. Allyn & Bacon.
- STORM: Geschichten aus der Tonne by Theodor Storm. Edited with Introduction and Notes by Charles F. Brustie, Professor in Kenyon College. Size 5x7½ in. pp. xii+133. Price 65 cents. Ginn & Co.

ENGLISH LANGUAGE AND LITERATURE

- BUTLER: School English: A Manual for use in connection with the Written English Work of Secondary Schools. By George P. Butler. Size 5x7½ in. pp. 272. New York: American Book Company.
- DENNEY: See Scott.
- METCALF: English Grammar for Common Schools. By Robert C. Metcalf, Supervisor of Schools, Boston, Mass., and Thomas Metcalf, of the Illinois State Normal University. Size 5x7½ in. pp. 288. Price 60 cents. American Book Co.
- MILNE: Elements of Algebra. A Course for Grammar Schools and Beginners in Public and Private Schools. By William J. Milne, Ph. D., LL. D., President of New York State Normal College, Albany, N. Y. Size 5¼x7½ in. pp. 200. Price 60 cents. American Book Co.
- SCOTT: The Rhetoric Tablet. Copyrighted 1894, by F. N. Scott and J. V. Denney. Size 5¼x9 in. Price 25 cents. Ginn & Co.
- Connecticut School Documents, in twenty numbers. Nos. XIV and XV. Reading Lessons for Young Children. Longfellow. 1892. Nos. II to XX. 1893. Nos. I to 6. 1894.

HISTORY AND POLITICAL SCIENCE

- THOMAS:** A History of the United States, by Allen C. Thomas, A. M., Professor of History in Haverford College, Pennsylvania. Size $5\frac{1}{2} \times 7\frac{1}{2}$ in. pp. xiii + 410 + lxxii. D. C. Heath & Co.
- SCHUCKBURGH:** History of Rome: to the Battle of Actium. By Evelyn Shirley Schuckburgh, M. A. With Maps and Plans. Size $5\frac{1}{4} \times 7\frac{1}{4}$ in. pp. xxvi + 879. Price \$1.75. New York: Macmillan & Co.
- SEELYE:** Citizenship: A Book for Classes in Government and Law, by Julius H. Seelye, D. D., LL. D., late President of Amherst College. Size $5 \times 7\frac{1}{2}$ in. pp. v + 78. Boston: Ginn & Company.

MATHEMATICS

- HUNT:** Geometry for Grammar Schools. By E. Hunt, LL. D. Size $5 \times 7\frac{1}{2}$ in. pp. iv + 34. Price 25 cents. Boston: D. C. Heath & Co.
- PRINCE:** Teachers' Manual for Teachers Using Arithmetic by Grades. By John T. Prince, Ph. D. Size $5\frac{1}{2} \times 7\frac{1}{2}$ in. pp. vii + 225. Price 90 cents. Boston: Ginn & Company.
- PRINCE:** Arithmetic by Grades, For Inductive Teaching, Drilling and Testing. In 8 Numbers. By John T. Prince, Ph. D. Size $5\frac{1}{2} \times 7\frac{1}{2}$ in. Price (each number) 25 cents. Boston: Ginn & Company.

PHYSICAL SCIENCE

- BIRD:** Geology: A Manual for Students in Advanced Classes and for General Readers. By Charles Bird, B. A., Lond. P. G. S., Head Master of the Mathematical School, Rochester. Size 5×7 in. pp. vi + 429. Price, \$2.25. London: Longmans, Green & Company.
- LINDSAY:** See Storer.
- NICHOLS:** A Laboratory Manual of Physics and Applied Electricity, Arranged and Edited by Edward L. Nichols, Professor of Physics in Cornell University. In two volumes. Vol. II. Senior Courses and Outlines of Advanced Work by George S. Moler, Frederick Bedell, Homer J. Hotchkiss, Charles P. Matthews, and The Editor. Size 6×9 in. pp. 486. Price \$3.25. Macmillan & Co.
- STORER:** An Elementary Manual of Chemistry by F. H. Storer, Professor of Agricultural Chemistry in Harvard University, and W. B. Lindsay, Professor of General and Analytical Chemistry in Dickinson College. Being a Revision and Rewriting of Professor W. R. Nichols's Abridgment of Eliot and Storer's Manual. Size $5\frac{1}{2} \times 7\frac{1}{2}$ in. pp. 453. Price \$1.30. American Book Co.

MISCELLANEOUS

- HARDY:** Five Hundred Books for the Young. A Graded and Annotated List prepared by George E. Hardy. Second Edition. Size $5 \times 7\frac{1}{2}$ in. pp. 94. New York: Charles Scribner's Sons.
- KLEMM:** Relief Practice Maps, by L. R. Klemm, Ph. D. Patented June 23, 1888. New York. Copyrighted 1894, by William Beverley Harrison, 59 Fifth Ave.
- LEWIS:** The National School Library of Song, No. 2. Edited by Leo R. Lewis. Advanced Solfegeios, Songs of Nature, &c., for Normal and High Schools, Seminaries, etc. Size $6\frac{1}{2} \times 8$. pp. 92. Boston: Ginn & Company.
- WITHERBEE:** Common Sense Copy Books: A System of Penmanship by Joseph V. Witherbee. In Seven Books, and a Tracing Book. Size $5 \times 8\frac{1}{2}$ in. Price per dozen 85 cents. New York: A. Lovell & Co.
- List of Books for Township Libraries with Supplementary List for Graded and High School Libraries of the State of Wisconsin. Prepared by the State Superintendent. July 1, 1894. Size 6×9 in. Paper cover. pp. 83. Madison, Wis.: Democrat Printing Company, State Printer.

